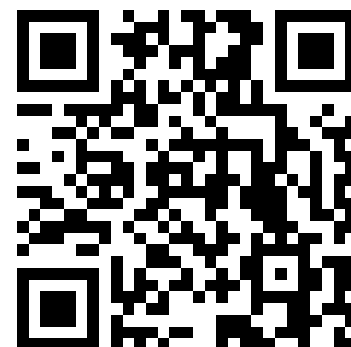

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Twentieth Century Impressions of Netherlands India.

ITS HISTORY, PEOPLE, COMMERCE, INDUSTRIES,
AND RESOURCES.

EDITOR-IN-CHIEF: ARNOLD WRIGHT (LONDON).
ASSISTANT EDITOR: OLIVER T. BREAKSPEAR (BATAVIA).

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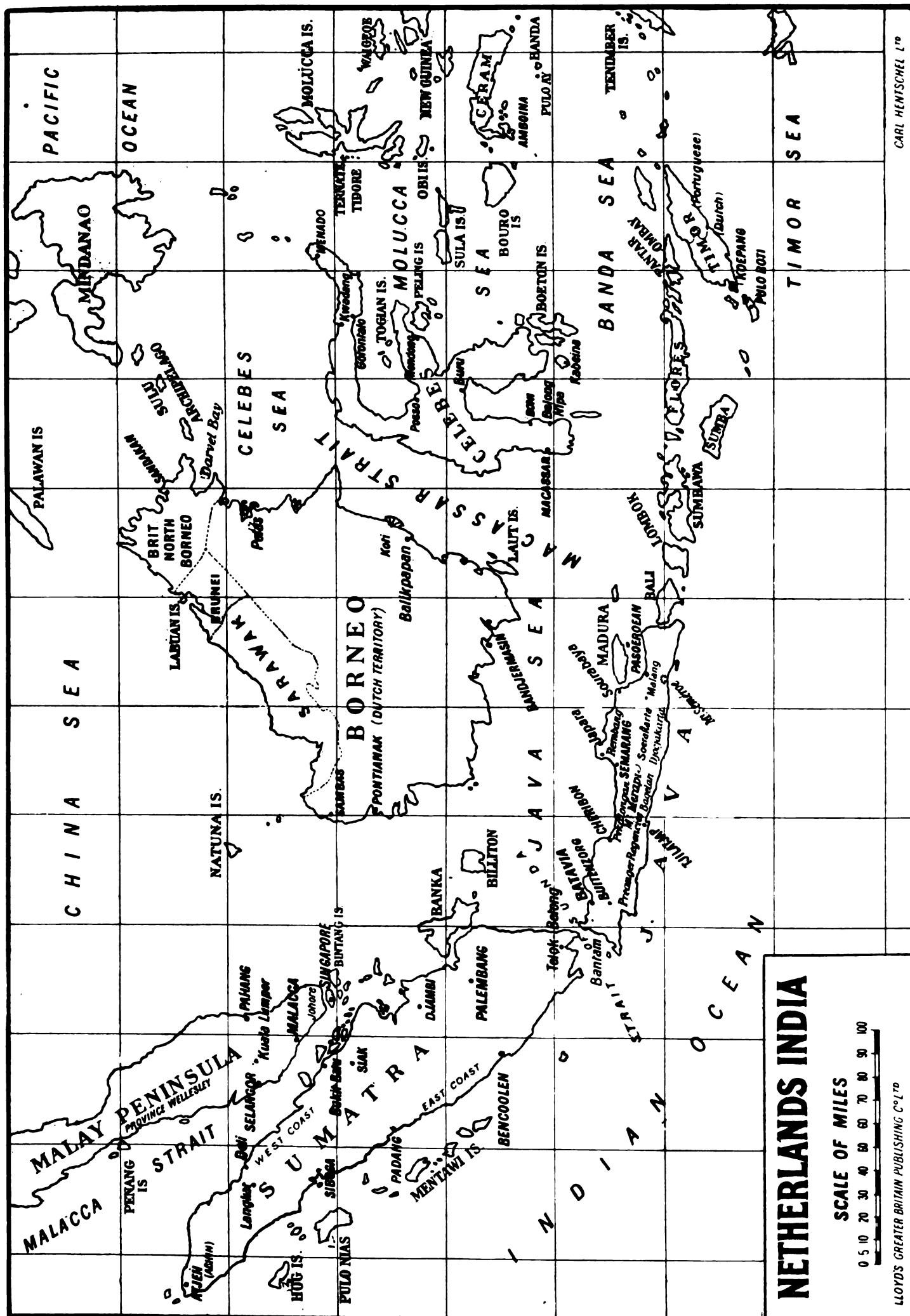


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HER MAJESTY QUEEN WILHELMINA.





RICE PLANTING IN JAVA.

PREFACE.



THE series of publications to which this volume, *Netherlands India*, belongs was primarily designed to furnish a literary survey of the outlying portions of the British Empire in their varied aspects — administrative, archaeological, ethnological and commercial. In the course of the prosecution of the enterprise, it was found to be desirable to give a wider range to the activities of the Company's collaborators, and to include within their sphere of action not only British territory but countries in which British capital is largely invested and in which British commerce has important interests. The publishers were the more encouraged to enlarge their designs in this direction by the numerous expressions of opinion which reached them as to the great value of their works to commercial men of all countries. Capital proverbially knows no frontiers, and there is an increasing demand in the great mercantile centres for full, accurate, and up-to-date knowledge of countries in which the world's trade centres. So it has happened that in conjunction with books dealing with Western Australia, Natal, Orange River Colony, Ceylon, British Malaya, and Egypt, the publishers have issued works on Hongkong, Shanghai and the Treaty Ports of China, and Siam, which (save in regard to Hongkong) have relation to non-British territory.

In the present volume, as in earlier ones, the aim kept steadily before the compilers has been to deal exhaustively and attractively with every phase of life in the region covered by the operations. The realisation of this ideal would have been impossible without not merely the hearty goodwill but the active co-operation and sympathy of the official classes in Holland and Netherlands India. It affords peculiar gratification to the publishers to have to acknowledge that these desiderata have not been wanting. From first to last in the discharge of their arduous operations, the compilers have received everywhere at the hands of the Dutch authorities the utmost courtesy and consideration, and have been assisted in a fashion which has made it possible to produce a work which, without fear of contradiction, may be described as superior to anything that has yet appeared in connection with Netherlands India. At The Hague, the Editor's request for facilities to investigate the old records and reproduce works of art relating to Netherlands India in national collections met with immediate attention, and he has to make special acknowledgment of the kindly efforts of *Fhr. Dr. R. de Marees van Swinderen* (Foreign Minister), *Dr. Th. H. F. van Riemsdyk* (Keeper of the State Archives), and *Dr. de Hullu* (Assistant Keeper of the State Archives) to smooth his path. In Netherlands India, when the enterprise was first brought to the notice of the Governor-General — His Excellency *J. B. van Heutsz* — he extended to it his warm approval. Further, it was welcomed by the Members of the Council of Netherlands India, and the Directors of different Departments gave all possible facilities for gaining full and reliable information regarding every branch of administration. In fine, if the work had actually been an official publication the compilers could not have been more considerately treated.

PREFACE.

Some reference to the special features of the volume seems to be desirable in this foreword. In the first place, the work is in a sense unique, for though there have been many books written on Java and particular aspects of Netherlands India, it has been left to the present publication to cover the ground fully. Its appearance in the English language rather than in Dutch might have been justified by this fact. But actually the book figures in the lingual garb it does because it was found, on careful inquiry in the best quarters, that such would be most in accord with the wishes of the great body of the Dutch people who are specially interested in the project. The belief is that, printed in English, the book will appeal to the very largest class of readers and carry to the furthest limits the knowledge of the beautiful lands of which the Dutch are so justly proud. Nor is the view the outcome alone of a patriotic desire to let the world know what Netherlands India is like. Java is growing into fame as a tourist resort, and all classes concerned, from the Governor down to the humblest tradesman, wish to stimulate the stream, believing as they do that the better their territory is known the greater will be its prosperity.

The historical section of the work has been written mainly from original records preserved at the India Office, London, and the State Records Office, The Hague. For the first time, the story of the great struggle between English and Dutch for predominancy in the Eastern Archipelago is adequately told, and on certain phases of it new light is thrown by discoveries made in the records. In the preparation of the historical matter, the Editor has had the advantage of the assistance of Mr. J. E. A. Reyneke van Stuwé, whose wide knowledge of Dutch historical literature and discriminating judgment have been of great value throughout.

The general contents embrace practically every phase of life in Netherlands India. Java's magnificent archaeological remains, relics of the past as interesting as any in Asia, are exhaustively treated in scholarly monographs from the pens of Mr. C. M. Pleyte, Lecturer on Ethnology, Geography and History, Batavia, and Mr. T. van Erp, Captain Engineer charged with the restoration of Borô-Budur. Illustrated with the most recent photographs and drawings and sketches specially made, these descriptions will be welcomed by all interested in Eastern art as a useful aid to the solution of some interesting problems. "Constitution, Government, Administration, and Law" are ably handled by Mr. J. de Groot, formerly first Government Secretary, Batavia; and the same gentleman describes in another contribution the Police System; "Finance" is treated by Mr. J. Paulus, Acting Secretary to the Department of Finance; Mr. J. E. Jasper handles in an attractive way "Native Arts and Handicrafts"; and Mr. Gallois, Acting Manager of the Government Experimental Gardens, Buitenzorg, gives a general account of the great agricultural industry of Netherlands India, while subsidiary interests such as Coffee, Tea, and Cinchona are dealt with by other experts.

The commercial interests as a whole receive a large share of attention in accordance with a guiding principle followed by the publishers—that these works should have a practical value in promoting the development of the regions treated in their pages. In this connection, it may be stated that the commercial sections are illustrated by photographs for the insertion of which fees are paid. Without the revenue received from this source, the production of a work of the magnitude of the existing one by private enterprise would be an absolute impossibility, and as the photographs undoubtedly add to the value of the book as a picture of the life of Netherlands India in all its aspects, the publishers venture to claim that the practice adopted affords no ground for adverse criticism, more especially as it is followed by the highest class of newspapers and magazines all over the world.

As far as the illustrations as a whole are concerned, the collection is of striking variety and interest, and constitutes a veritable art gallery of Netherlands India. The camera in few parts of the world has a more opulent field for its exercise than Queen Wilhelmina's Eastern dominions, and the views reproduced constitute the cream of some of the best private collections extant. The publishers' special thanks are due to Mr. F. A. Liefcrinck, of the Council of Netherlands India, for permission generously given to reproduce interesting views of Lombok and Bali.

By way of final note allusion may be made to the spelling of place names in the volume. In Netherlands India, as in other parts of the Eastern world, there is great diversity in the rendering of the names of places, and even official documents are not always consistent. As far as possible, the compilers have followed a uniform system, but as contributors have in some instances expressed a desire that their own spelling should be retained, and this has sometimes differed from that in other sections, it will be found that there are certain divergencies from the rule of uniformity which in the main was observed.

OCTOBER, 1909.

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BAS-RELIEFS AT BORÔ-BUDUR.

Twentieth Century Impressions of Netherlands India

ITS HISTORY, PEOPLE, COMMERCE, INDUSTRIES, AND RESOURCES.

HISTORY

BY ARNOLD WRIGHT.

CHAPTER I.

Cornelis Houtman's Voyage to the East—Formation of the Company for Remote Countries—Houtman's Instructions—Arrival of his Fleet off Sumatra—Visit to Bantam—Houtman and Seven other Dutch made Prisoners—Attack on the Town—Release of the Prisoners—Conclusion of Peace—Fleet Continues its Cruise—Return Home.

ON a bright spring morning early in April, 1595, four Dutch vessels "broke ground" from Texel, to adopt the language of the old chronicler, and directing a course down the North Sea commenced what was to prove a long and eventful voyage. The ships were the *Maurice*, of 400 tons, armed with "six great pieces of brass cannon, and fourteen little guns," and manned with a crew of eighty-four; the *Holland*, of similar size, armament and complement; the *Amsterdam*, 200 tons, armed with "six pieces of brass guns, and ten other little ones," and manned with a crew of fifty-nine; and the *Pigeon*, a small sloop of about 30 tons, armed with "two pieces of brass cannon and six little cannons"

and manned by a crew of twenty-four. Measured by a modern standard the vessels were insignificant craft, but they carried with them the germ of a great undertaking, for the fleet was none other than that famous one which, under the direction of Cornelis Houtman, was to open for Holland one of the most glorious chapters in her history. The inducement which took these four vessels from the pleasant home waters into the largely unknown regions beyond the equator was the rich spice trade which had brought wealth and power to Spain and Portugal, and which had long been a jealously guarded monopoly of those countries. While the fleets of their Catholic Majesties dominated the seas, there had been no hope of breaking down the barriers interposed to the passage to the Indies by way of the Cape. But the sturdy

Dutch burghers of Amsterdam had not been content to sit with arms folded and see their hated commercial rivals and religious persecutors reap alone the rich harvest of the isles of the tropical seas, which, from the days of Solomon onwards, had poured their odorous products into the lap of the civilised world. The Dutch conceived that if they could not get to the East by the front door they might find a back entrance which would serve their purpose as well. In other words, they resolved to attempt to find a North-East passage—a route which passing through Arctic seas would take them finally to China, Japan, the Moluccas, and India. Various attempts were made to this end, the most notable under the direction of two well known navigators, Barentz and Heemskerk. The expeditions

were well equipped and boldly and ably directed, but they produced little beyond an interesting record of geographical discovery.

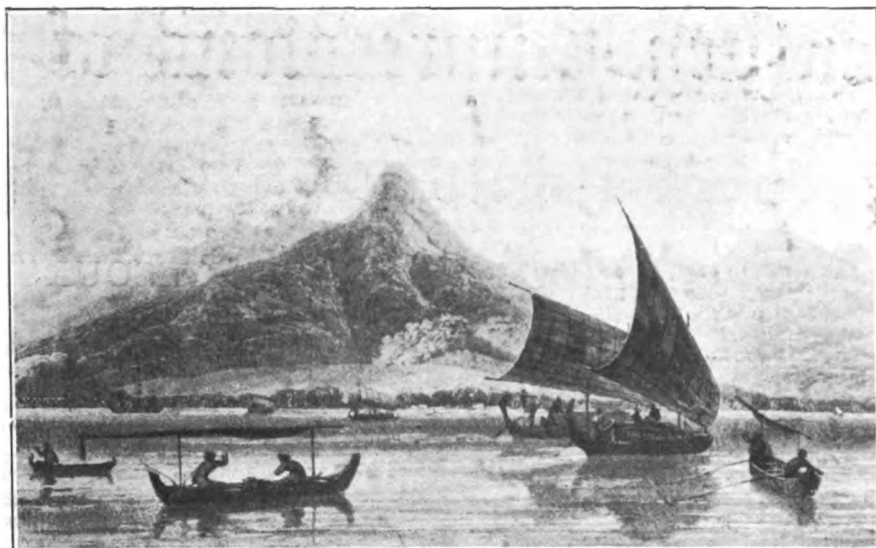
When repeated failures had demonstrated the impossibility of discovering an outlet to the East in this quarter Houtman appeared on the scene with a new proposal. This worthy had been engaged for some years in the trade between Holland and the Peninsula, and while in Portugal during these occasional visits had made special inquiry as to the condition of the East Indies. It was a matter of some peril for a foreigner, and especially one who belonged to a Protestant nation, to be too inquisitive about Portuguese trading enterprise in the Orient. But Houtman moved circumspectly and ultimately secured much useful information, not only about Portuguese commerce, but as to the course to be steered to reach the various important ports of the East. The facts were duly laid before Houtman's commercial patrons in Amsterdam. Such was the impression they made that it was resolved

to be established with the native authorities and proper arrangements made for future trade. Above all, Houtman was to give attention to the Spice Trade, and to attempt to arrange a commerce, notably with those countries in which the Portuguese had no settlements. The operating motive of the expedition was the foundation of a trade which would be independent of Portugal, a country which having a monopoly exercised the usual monopolist privilege of charging excessive prices for the products in which it dealt. As will be seen in the sequel, the instructions were carried out to the letter. Indeed, there is nothing more remarkable in history than the steady pertinacity with which the Dutch, amid every kind of vicissitude and in the face of heavy rebuffs, prosecuted this idea of obtaining a solid footing in the Eastern Spice Trade. It is true that at the outset the notion of substituting a Dutch for a Portuguese monopoly did not enter into the calculations of the Amsterdam burghers who pioneered this great enterprise. But, shrewd calculating business men as they were, they must have

Houtman's little fleet cannot be said to have been fortunate in the early part of its voyage. Battered by storms and delayed by baffling winds, it was not until four months had elapsed that it sighted the Cape. The crews then were in a deplorable condition. As many as fifty men in one ship were incapacitated for duty by scurvy, and the state of affairs in other vessels was almost as bad. At Madagascar the fleet stopped some little time to recruit and take in fresh provisions, and it touched also at the Maldivé Islands. On New Year's Day, 1596, Sumatra was sighted, and eleven days later the vessels dropped anchor under the lee of an island near the Straits of Sunda. Here they saw for the first time since leaving the Cape a number of vessels. A boat was sent from Houtman's ship to one of the craft—an open boat, manned by a crew of sixteen—and communication was thus soon established. Language difficulties at the outset interposed an obstacle to an understanding between the two. The natives spoke of Bantam and Japara and Sunda Calappa, but as these were names unfamiliar to the Dutch they made no impression upon them. At last, by signs, the natives conveyed to Houtman the idea that in the direction of the land was to be found the centres for trade which he sought. Guided by the native pilots, the ships of the squadron made their way carefully down the coast until, on June 22, they entered the Straits of Sunda and found themselves off the Bantam Roads. This was considered an appropriate occasion for settling the style and dignity of the leaders of the expedition, so the commissioner of each ship took to himself the name of captain, and Houtman was elevated to the rank of captain major. The scene which presented itself in the offing was one of much interest to the Dutchmen. They saw "a vessel called by the inhabitants a jonque: she had a foremast, a mainmast and a mizenmast, with a mainsail and a spritsail. She looked afar off like a herring fisher boat, but was quite another thing in her manner of sailing." They also saw innumerable little barks "which the inhabitants called praos, prauwen, or pirogues." Towards evening six Portuguese went on board the *Maurice*. "They said they were sent by the Governor and the inhabitants, who were in a strange consternation at the arrival of the Dutch ships, and asked them whence they came. The Dutchmen made answer they came from Holland to traffick peaceably with them. The Portuguese told them they were, indeed, in a trading country, but that the time and opportunity was not favourable, because they had sent to China but five days since vessels laden with pepper, which the Chinese called *sommes*, and the jonques they saw in the morning at anchor in the Bay were loading along the coast.

"The Portuguese were civil and kind enough to the Dutch, who asked them news of the King and of the country. They told them that the King had been killed in besieging Palimban, a city in the island of Sumatra, which rebelled against him, and that his army though possessed of part of the town, being put into disorder by his death, had been forced to retire. That when the navy went out of Bantam to go to Sumatra it consisted of 200 sail, and that the great number of people that were on board the fleet caused a great famine and destroyed many of them. That the King had left only one son, who was but five months old, and the inhabitants had chosen for their Governor a nobleman called Cheitate, who was the father of one of the late King's wives.

* A collection of voyages undertaken by the Dutch East India Company (translated into English), 1703.



ANJER POINT, STRAITS OF SUNDA.
(From Daniell's "Picturesque Voyage to India.")

to form a Company to put into execution Houtman's project for exploiting the markets of the East by direct means. The organisation duly came into existence with the designation of the Company for Remote Countries, and with a directorate which included Henry Hudden, Reinier Pauw, Peter Hasselaar, John Janz, Charles de Oude, John Poppen, Henry Buyck, Dirck van Os, Syvert Pietersz Sem, and Arent ten Grootenhuise, these all being men of high repute in the mercantile life of Holland. Afterwards came the formation of the fleet, whose departure from Holland early in the month of April, 1595—to be precise on April 2—has already been noted.

Houtman carried with him comprehensive instructions as to the policy he was to pursue during the voyage. First, he was to observe narrowly the course steered in order that other vessels following in the track of his fleet might have no difficulty in finding their way to the East. All places touched at were to be carefully examined, and the impressions upon them recorded. Friendly relations were

had some perception of the consequences that would flow from their intrusion upon the sacred preserve of their Catholic Majesties of Spain and Portugal. The insolent protest against Drake's circumnavigation of the globe, to which the haughty Elizabeth made such an appropriately spirited reply, and the reception accorded by the Portuguese to Sir James Lancaster in 1591, when he carried his little squadron through the Straits of Malacca, had clearly demonstrated the fierce resentment with which the two nations regarded any efforts by outsiders to break down their carefully guarded privileges. It is to be assumed that the magic spell having been broken by the intrepid English sailor and the impotence of the Portuguese pretty clearly demonstrated, the astute Netherlanders were not greatly intimidated by the prospect of the struggle that was before them. However that may be, the project was launched with a confident belief in its practicability and with a sublime disregard of Spanish and Portuguese opposition.

"Some of those Portuguese said they had been at Tennate on board Sir Thomas Cavendish his ship. They gave him also an account of Captain Lancaster's great expedition and the great havock he had made among the Portuguese and Indian ships in the Streight of Malacca. The Dutch told them they did not concern themselves with those things, but were only come to buy commodities and pay punctually for what they bought . . .

"The Dutch desired these envoys to present their services to the Emperor, and assure him they were come upon no other design but to trade peaceably, upon which the Portuguese seemed well pleased and so returned.

"The same day the *Sabandar* who is the first officer of the Court came on board the *Holland* to know the occasion of the arrival of the Dutch ships. They told him as before that they were come only to buy pepper and other spices, and had brought good money and merchandise to pay for them, and shew'd at the same time some pieces of money to the officer, who was very well satisfied, and informed them they were come to a good trading place, and that in few days they should have their lading. In fine, he shew'd a great deal of friendship and civility to the Dutch."

On the following day a great number of people visited the ships, bringing with them various commodities. Later the *Sabandar* or *Shahbander* again went on board the *Holland*. His object was to desire Houtman to land to pay a visit to the Governor. Houtman excused himself on the ground that his commission did not permit of his landing. But he invited the Governor to visit him, and promised that if he did so he would accompany him to the city. The ships, at the *Shahbander's* suggestion, were now anchored nearer the shore, under the lee of Pido Panjan, an island about two leagues from Bantam. Subsequently various high officials arrived with presents from the Governor and repeated assurances of his good will. "Those appearances of friendship and protection," says the narrator, "appear'd much more sincere to the Dutch because they saw at Bantam Chinese, Arabians, Persians, Moors, Turks, Malabarians, Peguans, and other merchants of several nations who were all very kind and civil to them, not only in words but in their actions, while they behaved themselves well and did not provoke them. About noon the *Sabandar* went to town, but the Portuguese stay'd and feasted all the afternoon with the Dutch. They advised them to mistrust the inhabitants of Java, because they were not true to their word, besides that they had very light fingers; in fine, they convinced them that they ought to trust nobody, but to believe their own eyes."

On June 27, the *Shahbander* again visited the Dutch ships, and entreated the Dutch very earnestly to go and visit the Governor, and, pursuant to the usual custom, to make him a present from their King or superiors as a mark of alliance and peace. "Upon so pressing a solicitation the Dutch sent four chosen men with glasses of fine crystal, a looking glass gilt, and a piece of scarlet cloth. Coming into the town they met with the Portuguese, who, with their ordinary dissembling, saluted them and made them great compliments. The *Sabandar* conducted them to the Palace of the Governor, who was at dinner; they waited till he had dined and saw before his Palace a brass gun about two spans in diameter, five granadoes as big as a bean, and some other little cannons with a mortar piece.

"As soon as they were admitted before the

Governor they made him their presents and invited him to come on board their ships to see their officers and make an alliance with them. He answer'd them by his interpreter that he would consider of it. Afterwards they went to the Palace of the *Sabandar*, who presented them with sweetmeats. The King and his Council sent them also presents of hens, he goats, fruits and other refreshments which they carry'd on board with them."

The next day the Governor visited the Dutch ships. His barge was attended by sixteen great pirogues. Proceeding on board

of the *Sabandar* and of the *Tomongon*,* he went into the Captain's chamber; where among other favours he assured them, that no merchant should buy any spices before their ships should have taken in such loading as they desired.

"The Governor, having a great mind to see the merchandise the Dutch brought, they shew'd him pieces of velvet and scarlet cloth, and made him a new present of a piece of scarlet cloth, and some days after they presented him with a piece of green velvet. He viewed the ship from the top to the



PRINCE MAURICE, STADTHOLDER.

the Governor's pirogue, Houtman sat by him and answered his questions, which had relation to the number of ships that the States of the United Provinces could equip in a year and to the voyage. "While they were so discoursing they arrived on board the Dutch fleet, where the Governor and those that attended him were received with all marks of distinction and respect by the Commissioners. Nevertheless, being invited into the Captain's chamber he began to tremble, thinking they were going to clap him in prison; at length, by the solicitation

bottom and desired they would make a discharge of their artillery when he should go away, which was done accordingly. The *Sabandar* stay'd on board to have the pleasure to see the discharge, and afterwards went away to join the Governor."

On July 1, Houtman, accompanied by several of his officers, paid a return visit to the Governor. "They were received by the Governor and by the Lords of the Court very civilly after their manner; they shew'd them

* Temenggong.

the Letters Patents and Commissions of his Highness the Prince of Orange, which gave them power to make alliances for the better security of trade, and that they might enjoy the same privileges the other merchants enjoy'd in the country. That commission was presently translated into Portuguese and Arabian. Then the Dutch desired the Court to give them an assurance and protection in writing, which they promised to give the first time they should come to Court again.

"The same evening they saw a great Lord or Prince arrive at Bantam. The Portuguese gave him the title of Emperor, because his father had an absolute Empire over all the Kings of Java; but they took no notice of him, because he had resided a long while at Malacca and had a great kindness for the Portuguese whom they hated for fear of being made subject to them. However, this Prince was very well received everywhere. The Kings themselves came holding up their hands to speak with him as slaves. They accus'd him of being a great drunkard and very prodigal.

"This Prince, King or Emperor, came on the 2d of July on board the *Maurice* with his two sons and some Portuguese. They view'd the ship everywhere and went to see the other two great ships, examining everything. The Emperor profer'd his services to the Dutch, and made them great promises."

On July 3, Houtman went on shore to confirm the proposed alliance. He was attended "by seven or eight men in velvet and satin cloaths with swords by their sides; some walking before and some after him, and one held a *Parasol* over his head. A trumpet march'd before, sounding now and then, and ten or twelve seamen closed the march." On their way they met the Emperor, "who conducted them to his Palace out of the town, for the Bantamites will not permit him to ly within the walls." The Portuguese "who pretended to be great friends to the Dutch accompany'd them to the City and desir'd them to do them the honour to come into their houses where a great entertainment was prepar'd for them. The Dutch who would not deny them were extremely well entertain'd. In fine, the Portuguese gave them a thousand caresses and false proofs of friendship. One of them who had seen Captain Houtman at Lisbon ask'd him in jest if he had been made a Duke since."

"The Captain Major came on board again in the evening and brought the articles sign'd by the Governour; by which it was agreed that the Dutch should have the liberty for the future to trade safely and quietly with the Bantamites."

All seemed now plain sailing, but in reality the difficulties of the Dutch were only beginning. On July 5, a messenger sent by the Governor went on board the *Maurice* to warn them of a projected attack which it was said "the Emperor," instigated thereto by the Portuguese, was about to make upon them. Acting upon the information, the Dutch made the necessary defensive dispositions. The next day brought another message from the Governor to the effect that "there was great murmuring and dissension in the town and that the most part of the common people had a mind to attack them." To ascertain how matters really stood, Houtman sent a messenger to the Shahbander's house. The man there "found sixty muskets charg'd which frighted him very much," but he was told by the Shahbander that the arms he saw were only to turn "the Emperor" out of the town, and so it ultimately proved, "for this Prince had a great party in Bantam and they were

afraid he would make himself master of the town." "The Emperor," meanwhile, "seduc'd by the promises of the Portuguese and in hopes of making a great booty by the plundering of the Dutch ships, resolv'd to attack them; but suspecting that the Dutch had notice of his design he took other measures. He prepar'd a great feast, where all the captains and masters of ships, trumpets and musicians were invited." But the Dutch were not to be caught in so obvious a trap. They sent a messenger on the day before that fixed for the feast to the Emperor, and plainly intimated to him that they were on their guard and would make a fierce resistance if an attack upon them was made. They desired him "not to believe the false reports of the Portuguese, who slander'd them only for their own ends, and would have them pass for English pirates, a nation fear'd and odious in that country for the great disorders they committed three years before." The Emperor appeared surprised at this speech and disclaimed any hostile intentions. He renewed his invitation to the feast subsequently, but the Dutch "excus'd themselves saying they were not very well, nor in a condition to go to a feast." Before the messenger who brought the Emperor's letter went away "the Dutch carry'd him under deck, and shew'd him a great quantity of arms, which so frighted him that for a long while he could not speak. Then he sat down, and ask'd the Captain what reason he had to be so angry. After that he went away and gave an account to the Emperor of what he had seen; and the whole city was presently alarm'd with it, and by that means they were quite out of hopes of having an opportunity to attack and seize the Dutch ships."

The "Emperor," foiled in his designs on July 11, retired to Jakatra. The days following were peaceful ones. The Dutch ships had many visitors, one of the number being "a Javanois who shew'd them their three ships and the pinnace, design'd after the same manner, as they rode at anchor in Bantam Road with the Prince's flag, which surpriz'd them extremely." In the meantime the Portuguese, to use the words of the narrator, "were not asleep." "They continually whisper'd into the ears of the Governor that the Dutch were spies; they alleg'd two reasons to prove what they said. First, they shew'd by their conduct that they had no mind to trade. Secondly, it was very improbable that they would sail in so great ships and so far off with so few seamen; and consequently one might conclude they had some rencounter in their voyage in which the most part of their men had been kill'd. They added to all this, that they had seen several Flemings and Dutchmen at Lisbon, but none like these." These insidious intrigues had their effect on the Governor, who became daily more suspicious of the intentions of the Hollanders. A circumstance which "increased his suspicion and his fear was that the Dutch sent the pinnace before the city to sound the harbour everywhere and to know at what distance they might approach it. . . . This motion oblig'd all the ships of Java which were at anchor in the Road of Bantam, to cut their cables and lie by the shoar." In spite of warnings of impending attack, Houtman, with seven seamen, went to the Governor, who caused the whole party to be arrested, "because, among other words, Houtman bragg'd he would take the two Jonques." At the same

time, the Governor sent word to the warehouse, which had been occupied by the Dutch for the sale of their goods, telling the Hollanders there to remain, assuring them that they had no reason to be afraid, and that what he had done "was only occasion'd by some passionate words utter'd by the captain." On the 20th the Governor sent his interpreter and nine slaves and one of the captured Dutchmen on board the Dutch ship to say that he had only arrested their companions to prevent the captain's threatenings, and that he would "keep them no longer than the two Jonques laden with cloves, and bound to Malacca, should set out." The Dutch, mistrusting the Governor, arrested the interpreter, and put him in chains on the *Maurice*, with all his slaves. This ill-advised action aroused the Governor's wrath. He swore that if the interpreter was not released before the sun set, he would put the Dutch prisoners to death. The Dutch, in these circumstances, deemed it expedient to give the man his freedom. At a later period of the day, they sent a man "to press the prisoners to use all means to be set at liberty, for it was impossible for the ships to tarry long at anchor, because they had no more fresh water." But this man was detained, and sent to join the other prisoners. On September 4, after a General Council, held on board the *Maurice*, a letter was sent to the Governor demanding the release of the prisoners, and threatening reprisals in event of non-compliance. At noon, on the 5th, no answer having been received, the ships approached the city as near as they could and cast anchor. "Then the Council order'd the sloops to be mann'd, and as soon as they were ready, the sloop of the Dutch *Orion*, mann'd with 13 men, row'd towards one of the Jonques, fasten'd her with the grapple, and took her. They found in her 14 Portuguese slaves who made no resistance and demanded quarter. Presently they drew the Jonque near the ships, without any opposition, in the sight of the whole City of Bantam. The sloop of the *Maurice* boarded another Jonque, who made no more resistance than the first. The pinnace steering towards a third, the Portuguese saw the Dutch would quickly be masters of her, and therefore set her on fire. The same pinnace attack'd another and took her, but her lading was but of little value."

This drastic action on the part of the Dutch caused great turmoil in the city, and for a time the lives of the Dutch prisoners were in imminent peril. On the 6th, Houtman wrote a letter to the Council of the Fleet asking them to stay their hands, for the Bantam people promised that if the junks were not plundered they would be released. A letter in the same tenor was received about the same time from the Governor. The Council replied to the latter communication, that it behoved the Governor to be as good as his word and threatened that if the prisoners were not released they would proceed to further extremities. On the 7th, no answer having been received to the Council's communication, the pinnace and the sloop were sent against a junk steering behind an island, and took and sunk her. "The inhabitants of Bantam seeing the Jonque sunk, went into twenty long pirogues, each of them mann'd with fifty men arm'd with pikes, broad swords, round shields, javelins, and some small guns. The pirogues, drawn up in a half moon, sail'd altogether towards the pinnace. The sloop's crew seeing the danger which the Pinnace was expos'd to, went aboard her, tack'd about, and set her afloat with much ado. Then

* The reference is to the voyage of Sir James Lancaster.

they let the pirogues approach within cannon shot, then they fir'd with their cannon so thick upon the Bantam vessels, that they dammy'd many of them, sunk some, and kill'd or wounded about 100 men.

"Notwithstanding this expedition, the Bantams, by the different motions they made with their pirogues, came so near the Dutch that they cut off the halber which tied the sloop; and jumping into her fought bravely, passing their lances through the port holes, and so hindering the Dutch to make use of their cannon; but they saluted them with so many volleys of musket shot that many fell down dead, which frightened the rest so that they durst not board them. After this disaster the pirogues returned to Bantam, the pinnace chased them, and approached so near the town, that she shot two guns against it, while the other ships batter'd it with all their artillery. The inhabitants shot some partereroes against the pinnace but without hurting her; however one bullet hit the mast of the *Maurice* in the middle.

"This done the Dutch prisoners were condemned to dye, but the people of Bantam could not agree about the manner of their death. Some would have them tyed to stakes and there shot through with arrows; others would have 'em expos'd to the mouth of the cannon and many would have them stabbed. So many different opinions delay'd their execution till the next day. All this while the ship fired till the break of day and many inhabitants were wounded, and among others the jaylor who kept the Dutch prisoners. But a bullet which fell in the King's Palace frightened the whole town."

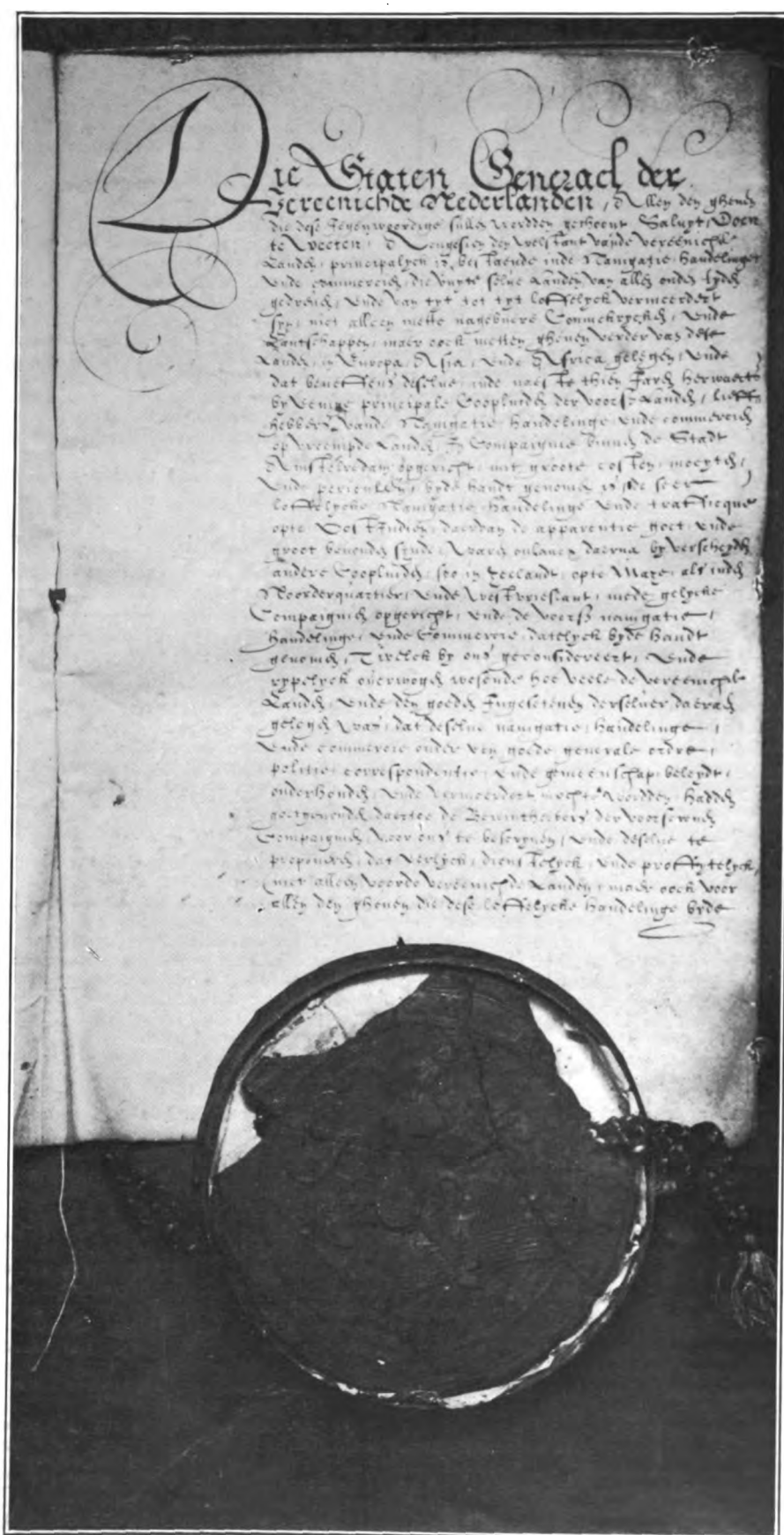
On the 8th, Houtman sent another letter "desiring his companions to forbear shooting and to retire further off the town, or else the Governor was resolved to tie the prisoners to stakes upon the shore and cause them to be shot with arrows in sight of the ships." The fleet upon this retired to a distance from the town, and unloaded the two captured junks. Negotiations followed without any definite result, and on the 13th the Dutch fleet weighed anchor and left the Roads for the purpose of recruiting their water supply. They had to proceed to Sumatra for this purpose, owing to the hostility of the Javanese. While they were away, the Dutch prisoners' lot was somewhat alleviated. At length they were set free, but were not permitted to leave the town. Ultimately, Houtman and his associates were ransomed, and a peace was patched up with the Governor. But dissensions fomented by the Portuguese soon broke out again, and a prohibition was issued against the Dutch trading. "After a course of negotiation varied with hostilities and a little indiscriminate plundering, the Dutch proceeded to Jakatra, arriving there on November 13. This place, destined to become the capital of the Dutch possessions in the East, is described as containing "about 3,000 houses very close built. 'Tis surrounded with high palissadoes and has a fine river that runs through the middle." The bulk of the inhabitants fled on the approach of the Dutch, but the Shahbader gave the visitors a cordial reception. On the 16th the King went on board the fleet with some of his leading officials. Afterwards, the fleet sailed along the coast of Java, touching at various points. On the 26th they came to "a great gulph where a great many fishermen were cruising; and also some jonques at anchor which oblig'd the Dutch to anchor there likewise." They were told by people who boarded them that "there were three towns in that country near one another; namely, Tuban, the biggest, Sydaio

and Surbaia. About three leagues off there is another town called Joartam, where you may see many jonques which sail to the Molaques, Amboine and Banda. From thence they go to Bantam to sell their merchandise." They were received in very friendly manner by the inhabitants, who brought them various gifts. One present sent by the King to Schillinger, the master of the *Amsterdam*, was "a rare bird called Emu. He was as big again as a swan and quite black, his feathers being like the feathers of an ostrich. . . . He had no tongue, nor wings, nor tail; but at the top of his head he had a shell as hard as a tortoise shell. His feet were long, big, and so strong that he made use of them to defend himself, and kick't like a horse. He swallowed whole all that he eat, even a whole apple as big as a man's fist. And which is wonderful, he would swallow firebrands without burning himself, and great bits of ice to cool him. Those birds are found only in the islands of Banda whence this came and was brought to Amsterdam as a great rarity. He was presented to the States General by one of the merchants of the Company." On December 5, 1506, preparations were made on board the fleet to receive the King; and under cover of the arrangements a considerable body of natives, led by the Shahbader, boarded the *Amsterdam*. Unsuspectingly, the Dutch allowed them to roam about, when all of a sudden an attack was opened by the treacherous natives. Renier Verbel, the commander of the ship, was stabbed to death in the first onslaught and several others wounded. But the Dutch crew, recovering from their surprise, gallantly faced the enemy, and after a sharp struggle killed nearly the entire party. A pirogue laden with refugees, principally wounded men, at the side of the ship, was sunk by a cannon shot. Some thirteen pirogues, well armed, were sent to the assistance of the boarding party, but they received such a warm reception that they beat a hurried retreat. The natives lost in the action 150 men and the Dutch twelve. Afterwards the fleet weighed anchor and sailed to Madura. Here there was another engagement with natives. In this the Dutch were easy victors. Amongst the dead was the king of the island, who had on his girdle a jewel of gold set with five precious stones. The encounter seems to have been due to a misunderstanding. The praos with the king's party on board approached the ships in spite of an intimation previously given that they could not be allowed on board, and the Dutch, thinking they meant mischief, fired on them, and followed this up by a vigorous attack on the praos. It was afterwards pointed out by the prisoners that there were women and children on board the praos, and it was argued that these would hardly have been present if the intentions of the visitors had been hostile. One of the survivors was the king's son, a handsome boy of six. "This young infant having observed that Houtman had some authority over all the Dutchmen, and that the interpreter call'd him Captain Major, fell down at Houtman's feet and beg'd the liberty of the interpreter in particular and of the rest of the prisoners, but with such grace, respect and wit that everybody admired him and they granted him his request." The "sad accident" troubled the Hollanders greatly. But they consoled themselves with the reflection that if some of the prisoners protested their innocence of any ill design, others confessed that an attack on the ships was intended.

Sailing onward after this unfortunate occur-

rence, the fleet proceeded to the island of Laboc, or Leboc, some 12 or 13 leagues off the Java coast. On December 25, 1506, John Mullenar, master of the *Maurice*, died suddenly of an "oppression of the lungs." Evidences pointed to poison. "Such an extraordinary accident caused so great murmuring among the seamen and some of the chief officers that those who were willing before to sail to the Molaques cried out with a common voice, that it was time now to return to Holland." On the 27th, a startling turn was given to the course of events by the arrest of Houtman on a charge of poisoning Mullenar. There had been continual quarrels between the two, and it was said that Houtman had threatened to put an end to the differences by poisoning his comrade. After remaining under arrest until the 30th, Houtman was released, but the circumstance "did not take off the suspicion from the most part of the seamen, who believed still he had poyson'd Mullenar." At this juncture a decision was arrived at to abandon the *Amsterdam*, which had become very leaky. Subsequently, all cargo and equipment having been taken out of the vessel, she was set on fire. The cruise continued for some little time longer, and then, having visited the island of Bali on February 26, 1507, the fleet sailed homeward. On August 10, they sighted the coast of Holland, and the next day the *Maurice* and the pinnace sailed to Texel, where the pilots took charge of them. The *Holland's* crew were so weak that they could not weigh anchor, and the ship remained anchored for several days owing to the prevalence of gales. At last, on the 14th, the weather having moderated, the pilots came out and took the vessel into port.

A great sensation was caused in mercantile circles in Holland by the return of Houtman's fleet. Financially, the voyage was not a conspicuous success, but the fact that the vessels had been navigated out and home, even with such moderate good fortune as attended them, showed the shrewd merchants of Amsterdam what possibilities there were in this Eastern trade which had hitherto been monopolised by the Portuguese and the Spaniards. Almost immediately preparations were made for the despatch of a second trading expedition to the East. The old company, for the purpose of this venture, joined hands with a group of Amsterdam merchants who themselves were contemplating sending ships out. The names of these worthies were: Vincent van Bronchorst, Simon Jansz Fortuyn, Govert Dirrickz, Cornelis van Kampen, Jacob Thomasz, Elbert Simonsz, Joncheyn and John Harmansz. In addition, Gerard Bicker, who is described as "a very considerable merchant," was associated with the scheme as a new director of the company in the room of one who had died. The fleet equipped by this combination consisted of six ships and two smaller craft described as yachts. They were manned by 560 seamen, and commanded by James Cornelis van Neck, a native of Amsterdam, who had as his second in command Wybrand van Warwyck. The ships assembled on March 9, 1508, and passed Texel on May 1 following. On August 8, when off the coast of Africa, a terrible storm was encountered, and the fleet was dispersed. Ultimately, five ships, including the Vice-Admiral's, got together, and continued the voyage to the Cape, which they rounded on July 29. They touched at Madagascar on September 18, and from thence passed to Mauritius. "On the 20th (September) the most part of the seamen landed and the minister of the Vice-Admiral preached a sermon upon the shore and gave



FACSIMILE OF THE CHARTER GRANTED TO THE DUTCH EAST INDIA COMPANY BY THE STATES GENERAL.

(Specially photographed from the original at the State Records Office, The Hague.)

thanks to God Almighty for having brought them into a harbour so much favoured by nature. Then they named that island Maurice, for a reason so well known that it is needless to mention it." Meanwhile, the other three craft, with the Admiral's flagship, the *Maurice*, continued their voyage to Bantam, arriving at that port on November 26, 1598. The inhabitants at first were suspicious of the visitors, whom they took to be pirates—a belief which the Portuguese assiduously propagated—but with perseverance, combined with a generous distribution of presents, good relations were established, and with such success was trade prosecuted that in five weeks the vessels were almost laden. A month after their arrival the other five ships of the fleet came into harbour in good condition, to the great joy of all. Their advent led the Bantamites to stiffen their terms, and it was, therefore, decided by the leaders of the expedition to leave the port. Early in January, 1599, the fleet sailed, four vessels fully laden leaving for home, and the other half proceeding some days previously to the Moluccas. "At the time of their separation they made so many discharges of their artillery that the whole island of Java resounded with the noise, and the inhabitants of Bantam were up all night, not knowing what was the matter, but," adds the veracious chronicler, "in the morning, seeing the four ships gone, they were very well pleased, for they were afraid to see eight great ships in their Roads." On June 10, 1599, the homeward bound portion of the fleet arrived off Texel. Some days after their return, Cornelis Heemskerck and Henry Buyck wanted on Prince Maurice and presented him with some gifts from the King of Bantam, which had been forwarded by the ships. Almost simultaneously one of the vessels, named the *Holland*, arrived at Amsterdam, and was received with great popular rejoicings. Meanwhile, the other section of the fleet was pursuing a very adventurous voyage. At Madura, a large island off the north-east coast of Java, a treacherous attack was delivered on one of the sloops, and its crew were taken prisoners. In the course of an unsuccessful attempt made to rescue them, a large number of the crews of two other vessels were either killed by the natives or drowned by the upsetting of a boat in a storm which occurred while the fight was in progress. At length the prisoners were ransomed, and the ships were able to resume their voyage. On March 3, 1599, they arrived in the Straits of Amboina, and cast anchor off the town of Itan. They met here with a very cordial reception from the native authorities, and immediately opened up what promised to be a lucrative trade in cloves for which the island was famous. The Council of the Fleet, seeing that Amboina was not likely to furnish enough cargo for the whole four ships, decided to despatch two of them to Banda. These latter vessels, the *Zeeland* and the *Gelderland* by name, sailed for their destination on March 11, 1599. They sighted the island on the evening of the 14th, and the next night "they came to Pido Serton, which lies at the north-west end of Banda. That island is uninhabited, and nobody dare venture to live in it, because, if we believe the natives of the neighbouring country, the Devil dwells in it. They are in so great fear of him that when their ships are obliged to sail near the island, they make all the haste they can to pass it." On March 18 the Vice-Admiral concluded an arrangement with the Shah-bander of the small town of Orattan under which the Dutch should have liberty to trade

and "a convenient house to lay in their merchandise." Trading continued briskly at Orattan and at Neira until July 5, 1599, when the Vice-Admiral, having taken leave of the authorities and commended to their care several Dutchmen whom he left behind to look after the company's interests, sailed for home. The two ships under the Vice-Admiral's command arrived at Amsterdam towards the end of April, 1600. People came from all parts of the city to inspect their cargo. "The nutmegs were so fine and so sound that they made oyl out of some of them, and certainly none were ever brought from Lisbon that were so good. The smell of them perfumed all the houses about."

The *Amsterdam* and *Utrecht*, the two ships which were left at Amboina, prosecuted their trade in circumstances of considerable disadvantage, mainly owing to the opposition of the Portuguese, who resented the Dutch invasion of what had hitherto been an exclusive market for themselves. From Amboina the Dutch proceeded to the adjoining islands of Ternate and Tidore, immortalised in Milton's deathless verse, wherein he describes in beautiful imagery a familiar spectacle to ocean travellers :—

"As when far off at sea a fleet descried
Hangs in the clouds, by equinoctial winds
Close sailing from Bengala, or the isles
Of Ternate and Tidore, whence merchants bring
Their spicy drugs."

At length, on August 19, 1599, the two ships quitted Ternate, a small party of men being left behind here, as at Amboina, to form a settlement. A call was made at Jakatra and also at Bantam, where the cargo of the two vessels was completed. On the way to the latter place, "two ships of Zealand named the *Long Bark* and the *Sun* were encountered." These vessels were despatched by a company of merchants, of whom Balthasar de Moucheron and Adrian Hendrikszen Haaf, were the chief. They had been at Bantam eight months, and had had moderate success.

On January 15, 1600, Admiral Warwyck took leave of "the Lords of Bantam," but not before he had had profitable discourse with them concerning trade, and

made arrangements for the establishment of a factory. As a parting gift to the Governor, the Admiral presented his own sloop mounted with two patereroes and lined with scarlet cloth, but "the Bantamites did not well know how to manage her." The vessels ultimately reached Holland in safety, though the crew was decimated with sickness.

The close of the sixteenth and the opening of the seventeenth centuries witnessed a great development of commercial activity in Holland. Apart from the two expeditions despatched by the company and the smaller Zealand venture to which reference has been made, there was a notable voyage made under the auspices of certain Rotterdam merchants by five vessels commanded by James Mahu. This fleet left on June 27, 1598, with orders to sail to the Moluccas by way of the Straits of Magellan. It reached the Straits of Magellan, but the rigours of that terrible region compelled the vessels to return.

Before the failure of this venture was known, the Amsterdam merchants represented by the Company for Remote Parts had fitted out and despatched to the East three further ships under the command of Stephen van der Hagen. Some months later, four of the eight ships of the second expedition, which, as has been noted, arrived off Texel on July 8, 1599, were despatched again under the command of James Willekens. In quick succession other fleets were equipped in Amsterdam, Rotterdam, and Zealand, and sent out. Some of the most important of these expeditions were financed by a company of Amsterdam merchants, most of whom were natives of Brabant, who were doubtless induced to set themselves in rivalry to the earlier companies by the plain evidence furnished of the profitability of their undertakings. In April, 1601, no fewer than thirteen ships sailed from Texel for the East. Nine of the craft belonged to the old and four to the new company. The command was divided between James Heemskerck, James Grenier, and Wolfhart Harmansz. This remarkable development of Dutch trade with the East caused great consternation and anger amongst the Spanish and Portuguese, who saw their ascendancy passing away with every fresh project that was floated. Early in 1601, the Spanish fitted out a strong

squadron with the object of cutting off the ships bound for the East. In May this fleet, consisting of thirty men-of-war, well manned, fell in with eight of the Dutch vessels. Notwithstanding the unequal odds with which they were faced, the Dutch offered a stubborn resistance, and so intimidated their assailants that the latter thought it better to leave them to pursue their voyage. This and other episodes of a similar character led the States General and Prince Maurice to give commissions to all the ships sailing to the East to inflict reprisals upon those who might attack them. Before very long an opportunity offered of taking advantage of these powers. James Heemskerck, with two of his ships, after quitting Bantam, fell in with a rich Portuguese carrack homeward bound from China. He boldly attacked the ship, which, "after a slender show of defence," surrendered.

The rush to the East on the part of the Dutch merchants associated with different combinations led to much overlapping and unprofitable duplication. In consequence, the States General called a meeting at the Hague of the companies, both of Holland and Zealand, and using gentle compulsion brought about a union between them. The arrangement thus made was confirmed by a patent from the sovereign power, dated March 20, 1602, and extending over a period of twenty-one years. The allied interests commanded a joint capital of 600,000 livres, and they signalled the new régime by fitting out for sea, in June, 1602, no fewer than fourteen large ships, which were placed under the command of Wybrand van Warwyck. Van Warwyck, with the bulk of his fleet, arrived in the Roads at Bantam on April 10, 1603. He almost immediately despatched two of his ships to China, and two to the Moluccas. Another vessel (a pinnace) was sent by the Admiral to Achin to order certain ships of an earlier expedition to join him at Bantam. These measures were the prelude to a vigorous development of Dutch trading interests in the East. Henceforward, Holland was to have a stake in the Eastern world which was to increase in value year by year, until, as far as the archipelago was concerned, it was to be second to that of no other country.

CHAPTER II.

The Spice Islands—Early History of Java—People probably of Hindu Origin—Native Traditions—Javan Kingdoms—Mahomedan Conquest—Portuguese Relations with Java.

THE strange Eastern world into which the Dutch had thus courageously intruded was one which, though new to them, had long been familiar to the great trading nations of the Old World. Java, Sumatra, the Moluccas, and the other rich islands of the Eastern archipelago had from time immemorial been the resort of those who supplied the markets of the ancient centres of civilisation with the spices and other similar products so essential to the religious as well as civil life of the peoples of the great dead empires which existed about the Mediterranean and in Asia Minor. In Sanscrit literature of about the commencement of the Christian era we have frequent references to "Jawa-dwipa," or Barley Island, a land of high fertility and rich in gold and silver. This name can be

applied to no other place than Java, for though to-day the island is not conspicuous for its mineral wealth, it is to be gathered from an ancient inscription of about the year 752 A.D., found in Java, that there was a time when the area yielded a rich store of gold. Furthermore, it is to be noted that the name by which the Arab traders knew Java was "Zabedji," or "Goldland." Even the early Portuguese explorers heard of the "gold islands" in the vicinity of Sumatra, and actually sent an expedition to discover them of course without results, for it was to Java that the tradition referred. Curiously enough, Sumatra is also styled Jawa in the old Sanscrit literature. The full designation applied is "Jawa Ketjil," the term meaning "Small Java." Most probably the adjective

is to be read as meaning not smallness of size but relative insignificance in point of commercial importance. Ptolemy, the Greek historian, refers in his narrative to Labadioe, and applying the term to an island of great fertility and mineral wealth, describes its inhabitants as a people who were relatively well advanced in civilisation. Chinese annalists have less to say about Java than might have been expected from the comparative proximity of the island to the Chinese sphere of influence. The earliest and best account is that of the Buddhist pilgrim, Fa-hien, who visited Java in the year 414 A.D. But before his day, it we are to believe Chinese writers, relations existed between China and Java, and it is even claimed that the Emperor of China exercised some sort

of sovereignty over the islanders. It is to be deduced from all this that Java has a very ancient and interesting history, and that at a comparatively early period it was under a more or less civilised government. The

and the temples of Prambanan are the most splendid examples, alone are sufficient to indicate a Hindu origin for Javan civilisation. Only a predominant race could have supplied the zeal and resources requisite for the carrying

to him a system of colonisation which was cut short while in process of evolution by a pestilence. By a third class, he is considered as a saint and a deity, and the legend is that on his voyage to Java he sailed over mountains, islands, and continents. Most, however, agree in attributing to him the first introduction of letters, government, and religion; "the only trace of anterior civilisation being a tradition that before his time there existed a judicial code under the title of sun and moon, the punishments of which appear not to have been severe . . . This code Aji Saka is represented to have reformed; and an abstract collection of ordinances, said to have been made from his instructions, is believed to have been in use as late as the time of Janggala (A.D. 900) and even of Majapahit (A.D. 1300)."

According to a prophetic chronology of the Javans, which is ascribed to the pen of the Aji Jaya Baya, but is doubtless a more modern composition, the supposed arrival of Aji Saka did not take place till after the year 1000. The writer of this account says that in the first year of the Javan era "the Prince of Rom sent twenty thousand families to people Java, but all of them perished except twenty families who returned to Rom." In the year 10, a second effort at colonisation was made by the Prince of Kling (India), and proved more successful. But the colonists continued in an uncivilised condition until the year 280, "when the Almighty blessed them with a prince named Kano, who reigned for one hundred years, at the end of which period he was succeeded by Basu Keti." The father and son are supposed to have ruled for the fabulous period of three hundred years. Then followed various dynastic vicissitudes until the year 1002, when Aji Saka made



ANCIENT TOMBS NEAR THE NEGORY RIVER, JAVA.

(From "Javasche Oudheeden".)

question arises: Whence was this civilisation derived? Raffles, in his well-known "History of Java," mentions that amongst the various traditions regarding the origin of the inhabitants of Java and the Eastern Islands is one which assigns their original home to Egypt. The fable goes that the first colonists came in vessels from the Red Sea, and coasted along the shores of India to the Southern land which then existed as a portion of a vaster Asia, in which India occupied a middle position. "These people," says Raffles, "are supposed to have been banished from Egypt and to have consisted of individuals professing different religious persuasions, who carried along with them to the land of their exile, their different modes of worship and articles of belief. Some are said to have adored the sun, others the moon; some the elements of fire and water, and others the trees of the forest. Like all other uncivilised men, they were addicted to the arts of divination and particularly to the practice of astrology. In other respects they are described as savages, living in hordes without fixed habitations, without the protection of regular government, or the restraint of established law. Respect for age was the only substitute for civil obedience. The oldest man of the horde was considered its chief, and regulated its simple movements, or prescribed its political duties."

No very great amount of reliance probably is to be placed on this picturesque tradition. There is little to show that Egyptian influences ever had a part in moulding Javan destinies. On the other hand, there are clear and convincing proofs that the connection between India and Java was most intimate. The vast architectural remains, of which Bôrô-Budur

out of the design of these mammoth temples which deservedly rank amongst the ancient architectural wonders of the world. And in style, feeling, and treatment Bôrô-Budur and the Prambanan temples are distinctively Hindu with traces of Buddhist influence. The gods whose mythical actions are depicted on the fretted façades are the gods of India, Kri-hna, Siva, Ganputi, and the rest. The whole might be transplanted to the plains of India and fit naturally into a purely Hindu environment. While, then, we may safely conclude that the early conquerors of Java were a Hindu race, it is a matter of considerable difficulty to determine when this race first appeared in Java. Dr. Brandes, an eminent Dutch *savant*, fixes the year 750 A.D. as the approximate date on which Hindu influence had thoroughly permeated the island. But Mr. P. A. van der Lith, a standard authority on Netherlands India, whose opinion is entitled to great weight, considers that it would be safe to speak of a much earlier period. And certainly the probabilities point in this direction, for Bôrô-Budur and Prambanan must have pertained to the palmy period of Hindu art, which, according to Fergusson, was several centuries earlier.

The native traditions carry back the commencement of Javan national life to about the year 75 A.D., when there landed in the country a certain Aji Saka, who is represented by some of the old writers as the minister of a powerful prince of a country known as Astina, who was sent to visit and civilise foreign countries, and who, landing in Java, so well fulfilled the behests of his master that from that time the island dates its emergence from barbarism. Others identify him with the prince himself, and attribute



ARTJA DOMAS, OR EIGHT HUNDRED STATUES, NEAR BUITENZORG, JAVA.

his appearance and established himself as independent ruler of Mëndang Kamulan. Sixteen years later were completed the Chândi Sewi (Thousand Temples) at Prambanan. The empire of Mëndang Kamulan and its race of princes becoming extinct, there was a succession of four kingdoms known respectively as Janggala, Kediri, Ng'arawan, and Sing'a Sâri. Eventually these kingdoms were united under Panji Sûria Ami Sêsa, the son of Ami Luhur, the

prince of the first-named of the four kingdoms. Panji Súra dying, he was succeeded by his son Panji Laléan, who in 1200 removed the seat of government from Jang' gala to Pajajaran.

In some accounts it is stated that the religion and arts of India were first introduced into Java by a Brahmin named Tritrésta, who, with numerous followers, landed on Java about this period and established the era, in consequence of which he is considered the same as Aji Saka. The descendants of Tritrésta are accordingly said to have succeeded to the government of the country; and a list of eighteen princes is adduced to bring down the history to the ninth century, in which the empire of Jang'gala was established.

Leaving these misty and largely fabulous chronicles—babads as they are called—of the old Javans, and coming on to the ground of ascertained fact, we can trace the existence in Java of three distinct kingdoms of Hindu origin, named respectively Pajajaran, Majapahit, and Demak. Pajajaran, the first of the three kingdoms, was in Western Java, and had its capital at or about the spot where Buitenzorg is situated. In its latest form, this kingdom existed from about 1100 to 1526. After the later year, the Mahomedans from the West appeared, and gradually conquered the state, finally overthrowing it about the end of the sixteenth century. The second of the three kingdoms, Majapahit, had its capital in the present district of Modjokerto, in the presidency of Sourabaya. According to Rouffaer, this state was established in or about the year 1278, but an old document found in Java, and with a date which synchronises with 840 A.D., makes mention of a kingdom called Majapahit, and this seems to point to a much earlier origin. Van der Lith thinks it possible that an empire was founded by Persian and Arab sea travellers in the tenth century, which was known as Majapahit, but his view does not meet with the support of Dr. Brandes. Whatever may be the truth in regard to the origin of the kingdom, there is no doubt that in about the year 1293 an expedition sent from China landed on the island, and made an end to the state as it then existed. The Chinese domination was not of long duration, and within a few years we find Majapahit again established with its old line of rulers, and these so powerful that they exercised sway over the whole of Eastern Java. In 1389, the kingdom appears to have been separated into two parts, and the proverbial fate of the house divided against itself overtook it. After unceasing warfare between the two sections, the kingdom flickered out of existence. The end is assigned by some authorities to the year 1478, but Rouffaer has shown that the Portuguese in the sixteenth century spoke of a special Hindu state of Java, which must have been Majapahit, and this being so, the downfall of the Hindu dominion must be placed as late as between the years 1515 and 1525.

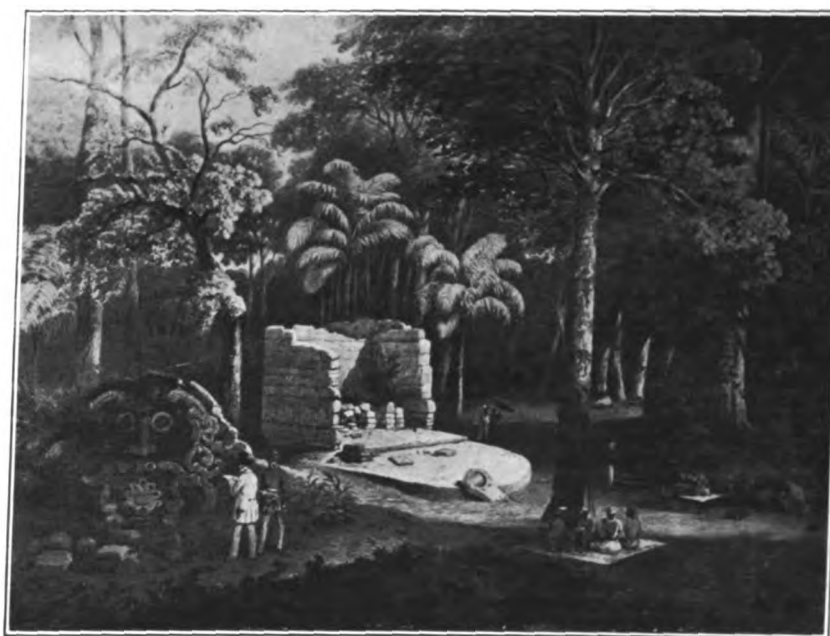
Coming to the third state, Demak, we have a kingdom seated in the Semarang district. The princes of this state exercised great influence in Mid and Eastern Java in the fifteenth and sixteenth centuries. In 1478 they joined with the Mahomedan chiefs who had established themselves along the coast in attacking and conquering Majapahit. Afterwards, Demak itself was absorbed by the same invaders, and finally seven Islamic states were built upon the ruins of the Hindu kingdoms, viz., Demak, Padjang, Grisee, Kediri, Cheribon, Jakarta, and Bantam. By another process of evolution, out of Padjang was evolved the most

important state of Mataram, which will figure prominently in subsequent pages. This state was ruled by a potentate who bore the title of soosoofoonan, or emperor.

It is somewhat strange, having regard to their keen appreciation of commercial openings, that the Portuguese should have failed to establish themselves on Java during the whole period of their predominance in Eastern seas. The story of their connection with the island, prior to the advent of the Dutch, may be briefly related. On his first arrival in the East in 1510, Albuquerque visited Sumatra, but took little account of it, his attention being attracted rather by Malacca, which, as a commercial emporium of considerable fame, appealed more to his imagination. In 1511, after conquering Malacca, Albuquerque sent Antonio de Abrew, one of his lieutenants, with three of his ships to Java on a tour of inspection. Abrew touched first at Ajacai (probably Grésik or Grisse), and from thence he sailed to Amboina, where he set up his padroes or pillars of discovery and possession, as he and his compatriots had done at every place at

of exploring it. The natives resenting the intrusion took the entire party prisoners, and it was with the utmost difficulty that De Britto obtained their ransom. At about this period De Britto was joined by Don Garcia Henriquez with four vessels which were on the voyage to Banda. So far the Portuguese thought they had a monopoly of the spice trade, but great was their mortification to find at Banda a Javan vessel which had received a pass from the Spaniards under Ferdinand Magellan. This famous explorer had passed the Straits which bear his name, and had arrived at the Spice Islands by a route the existence of which had hitherto been unsuspected. The Portuguese were the more annoyed at the occurrence as Magellan was a countryman of theirs who had left the Portuguese service to join the Spaniards.

The next stage in the history of Portuguese relations with Java was reached in 1522, when Albuquerque despatched Henriquez Lerne with an imposing suite on a mission to the King Samian with a view to the establishment of commercial intercourse. The King, who was



RUINS OF THE TEMPLE OF MATJAN POETIH, JAVA.

(From "Javasche Oudheden.")

which they called. Whilst navigating the islands one of Abrew's vessels was lost in a storm, but the crew were saved and taken to a port in Banda. In the meantime, an emissary of the Portuguese, Nakoda Ismael by name, had been trading on their account in Java, and was on the return voyage when he was wrecked off Tuban. The cargo of the vessel, though damaged, was still sufficiently valuable to induce the Governor of Malacca to despatch Joam Lopez Alvin with four vessels to recover it. Alvin met with a very friendly reception from the Javans, so friendly in fact that trade relations of an intermittent character were established. About 1520 or 1521 another Portuguese expedition, consisting of six ships under Antonio de Britto, made its appearance in Javanese waters. The first port touched at was Tuban, and thence the squadron proceeded to Ajacai, where it remained seventeen days. While at the latter place, de Britto sent a boat to the island of Madura for the purpose

at the time at war with the Mahomedans, was fully sensible of the value of an alliance with the Portuguese and not only agreed to admit them to trade but offered a site on which they might erect a fortress. As a further mark of his friendliness, the monarch agreed to furnish the Portuguese annually with a thousand bags of pepper from the day on which the building of the fortress should commence. As a result of the negotiations, Francisco de Sa was despatched with six vessels to Java and accompanied the King on his expedition to Java, which was then in the hands of the expelled King of Malacca. The squadron met with a fearful storm off the coast of Java, and the vessels composing it were all sunk or dispersed. Its late deferred Albuquerque from carrying out the arrangement for the formation of a permanent settlement. But the Portuguese continued to have intercourse with the island, its vessels to and from the Moluccas almost invariably touching at Javanese ports.

CHAPTER III.

Great Expansion of Dutch Enterprise—Missions to Johore, Ceylon, and Achin—Portuguese Hostility—Serious Effects on Portuguese Trade of Dutch Measures—Naval Encounters—Armistice concluded for Twelve Years—Prince Maurice's Letter to the Emperor of Japan—The Japan Trade—Antagonism of English and Dutch—Conference in 1615 to settle Differences—Renewal of Rivalry—English Occupation of Pulo Roon—Dutch Exasperation—A Serious Crisis—New Commission appointed.

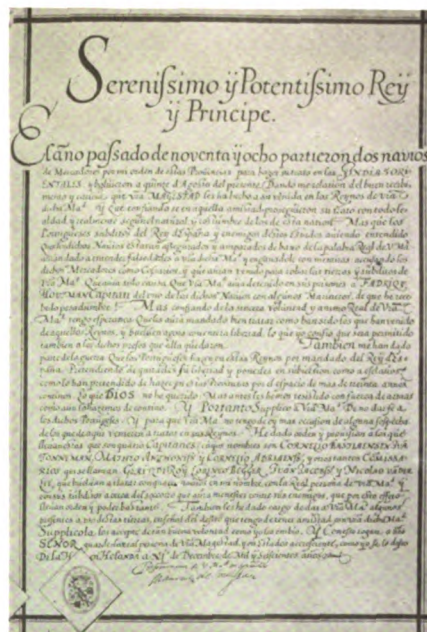
It is remarkable with what perspicacity the early Dutch traders made their strategic dispositions for securing the trade of the East. Barely had a settlement been formed at Bantam, itself a fine central position for conducting operations, than emissaries were sent out in all directions with a view to the establishment of a network of organisations for the furtherance of the ends in view. As we have seen, before the sixteenth century had closed a lodgment had been made in the Moluccas at Amboina and Banda, and connections had also been established with Ternate and Tidore. The first years of the seventeenth century witnessed a great expansion of Dutch enterprise. In 1602, James van Heemskerck appeared at Johore, and laid the foundations of a connection which was to result in the conclusion on May 17, 1606, of a treaty between the Dutch and the Sultan of Johore, pledging the contracting parties to attack Malacca, and providing for the disposition of the territory after the capture of the place. An even more important mission than that of Heemskerck to Johore was conducted in 1601, by Admiral Spilbergen to Ceylon. Arriving with his two ships off Batticaloa, Spilbergen opened up communications with the native authorities, and finally paid a visit to the King of Kandy (as the Sinhalese ruler of Ceylon was then called) at his capital. The Dutch envoy met with a very friendly reception at the hands of the King, who was known to the Portuguese as Don John. Spilbergen told his royal host that his object was not so much to trade as to form an alliance with him against the Portuguese. The King professed to welcome the idea, and as a mark of special distinction introduced Spilbergen to the queen, whom he found sitting in European costume amidst her children. On leaving, Spilbergen took away many marks of the king's goodwill in the shape of handsome presents.

Barely had Spilbergen left the coast than another Dutch squadron of three vessels arrived, under the command of Sebalt de Wert. Learning of the cordial reception that Spilbergen had met with at the hands of the King, De Wert decided to proceed to the capital to clinch the bargain which had been provisionally made. The Sinhalese were not quite convinced as to his *bonâ fides*, and his journey up to Kandy from the coast was marked by some rather unpleasant incidents. Once arrived at the capital, however, he had no reason to complain of the attitude of the authorities towards him. He very early sought and obtained an audience of the King. De Wert greeted his majesty with one knee on the floor, when the King by an interpreter said he was sorry for the uneasiness De Wert would have had on his journey, and asked him whence and wherefore he came. He replied he came from a country called "frandes" by the Portuguese, being some confederated provinces governed by the noblemen and

prince, whose figure was hanging on the wall. "It caused great pleasure amongst the courtiers," says the narrator, "that he recognised the portrait, as they saw that General Spilbergen (who had been there four months before), had told the truth, and that the Dutch really were a nation. The portrait was placed there on purpose to test the truth of Spilbergen. Moreover, (they had represented) that they were merchants, had come to India to buy cinnamon, pepper, precious stones, in exchange for their own merchandise, making friends with all kings and princes of the countries and islands of India, that they should be allowed to trade freely with their subjects, that they had been in Achin, Bantam, and the Moluccas

replied that undoubtedly God had sent me. However, it was not by accident, like people say, for that I had come with a special charge from our prince, who having heard of the continual wars of the King of Ceylon . . . had sent me thither to make an alliance and friendship with the King. However, his Majesty knew very well that princes or kings do not assist anybody to their own loss: that we came from far with great difficulties and costs, that if we had a chance of a cargo in his country he would not be wanting assistance, that he, therefore, should order that pepper should be planted, and every year Dutch vessels would come. (I also urged) that he should procure me a cargo that I might sail home and return with assistance; which he promised he would do if I only waited four months, for he had to fetch the pepper from the continent, as on the island itself little pepper only was to be found: (He said) that he would procure it even if he had to sell all his elephants." Then De Wert would have taken his leave and returned to his lodgings. The King, however, asked him the reason that he had been so brave to make such a long journey into his country without either knowing him or having written to him, or having received any hostages. De Wert answered that he had several reasons for it, but that the principal was "the Portuguese." As the King did not understand it, as he was an enemy of the Portuguese, De Wert explained that he was certain that a king "who was really an enemy of the Portuguese, had to be a friend of us (the Dutch) who were fellow enemies of the same Portuguese, and that I, coming unexpectedly to such a king would be welcome, which I certainly would not do in other countries, whereupon all laughed." In the evening the King received De Wert once more privately, "in the presence of only three or four of his secret Councilors." "And when I intended to kiss his hand," says De Wert, "He took me in his arms and embraced me so heartily that my ribs cracked. I would have liked better to be embraced by a nice girl. He intended, however, to show me how welcome I was to him." The outcome of the visit was the conclusion of a treaty by which the Dutch agreed to co-operate with the King's forces in an attack on the Portuguese position at Point de Galle.

While these interesting proceedings were taking place in Ceylon, another Dutch envoy, Jeronimus Wondraer, was engaged in an attempt to form an establishment at Achin. Wondraer, in a communication dated March 24, 1602, gives an entertaining account of his first audience with the King of Achin. From this we gather that on reaching the capital on the night of March 21, Wondraer sent word to the King that he had arrived, but that he could not pay his respects for the time being as a prahu laden with presents had gone astray. Notwithstanding this and the fact that it was night time, the monarch



LETTER SENT BY PRINCE MAURICE TO THE SULTAN OF ACHIN.

for some years already, being great friends with the kings as they were enemies of the Portuguese, having been at war with the King of Portugal for more than thirty years already." De Wert was proceeding to say that he had been ordered by his prince to assist all kings and princes who had been expelled by the Portuguese when the King (who understood Portuguese) interrupted him and said that he had come in good time, and that he had been sent by God to a king who had suffered more than anybody else from the Portuguese, who would take his country illegally and unjustly. "He requested me," De Wert proceeds, "to follow my commission as quickly as possible. I

"sent his treasurer in a yacht of 28 oars full of people" to fetch the visitor. Aroused out of a deep sleep, Wonderaer put his mantle over his shirt and in that exiguous costume accompanied the King's messenger. This person was disposed to be exceedingly friendly. He told Wonderaer that the King promised the Dutch total freedom in life as if they were his own brothers, and had ordered him (the envoy) to lodge Wonderaer and his companions in his own house. Wonderaer suitably acknowledged the kindness of the King, but begged to be excused from accepting the ambassador's invitation to be his guest, "saying that I being a merchant was not fit to be a guest in such a nobleman's lodgings." To this the envoy replied that "he was accustomed to receive strangers, for at other times Portuguese as well as Japanese had been his guests and that he liked to help strangers, if they were honest people as he said he could see by our appearance we were." The audience with the King took place on the following day. When the King appeared "dressed in black and his head uncovered Wonderaer and his companions greeted him according to the Dutch fashion (taking off his hat and touching the ground three times with his knee). Then the King said by a female interpreter who could speak Portuguese that he was glad to see us, and bade us welcome, saying that he was sorry for what was done to us and that God knew that it was not his fault, if not by false indications as we had been so long in his country without making ourselves known to him or showing that we were merchants. . . . That he gave you and us allowance to trade and live, to go or remain in his country as we liked best ourselves; and as he heard that we wished to buy pepper, so he would help us in all things he could.

"Wonderaer thanked him for his kind affection towards them, brought him reverence and friendship from his Admiral saying

"The King made Wonderaer and Albert Cornelis Ruyl (his principal companion) sit near him on a mat, the two interpreters on another. Then he expressed once more his scheme of what had happened, as he looked them in the face. . . . Once more he

Dutch." He also was amused at their finding the arrack too strong for their tastes. At the conclusion of the repast, the guests took leave of their host and went home.

After this, trade was commenced by Wonderaer and his associates, but the



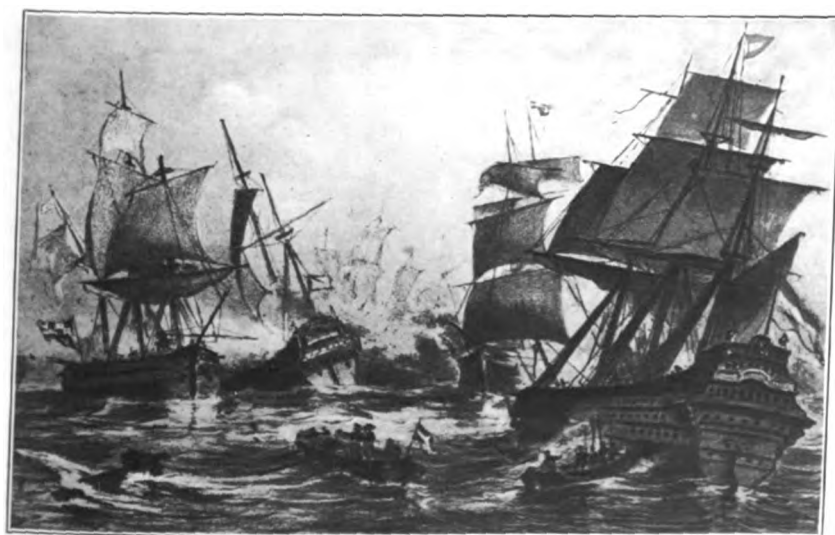
AN ANCIENT VIEW OF MALACCA.

(From an old coloured drawing at the State Records Office, The Hague.)

showed his anger against those who were guilty. . . . Chinese and others (he said) came yearly, true also Portuguese, but they could not be compared with us; he offered us again every license, even if we wished to turn the Portuguese out of his country. Wonderaer thanked the King once more for his kindness, said that he was sure the King wouldn't be deceived in his good opinion, for that they meant what they said. He asked the King not to turn out of his country any people for their sake as they were not jealous, but that they should like everyone to be allowed to trade as well as they."

operations were greatly hampered by the extortionate demands of the Achinese. They also had to encounter the inveterate hostility of the Portuguese, who were continually plotting and intriguing against them. On one occasion the King disclosed to them that he had received overtures from a Portuguese priest to attack their ships. "Also he (Wonderaer) was warned by the Japanese, for he had tried to make them believe that we were English and forsakers of God's commandments and faith, had assisted the King, who was a heathen, with cannons and men for his Government, and (said) more nasty things. The same Japanese also advised us not to come in Japan for the King would make slaves all of us as he had done with some English 3 years ago, who had visited that country with 24 men, the rest of a crew of 200 as they said; saying he knew very well that we had nothing to fear at sea. However, when we came ashore we would be unable to resist."

At every point at which the Dutch sought to obtain an opening for their trade they were confronted with the determined hostility of the Portuguese. This nation had so long had an absolute monopoly of Eastern trade that they could not tolerate the idea of independent relations being established by other peoples with the East. So they intrigued and fought for what they regarded as their privileges with a deadly earnestness. In 1601, they equipped a great expedition of twenty ships, and, placing it under the command of Andrew Furtado Mendoya, a trusted leader, sent it to the Moluccas. The armada fell upon five Dutch ships which were anchored at Banda, and a strenuous fight ensued. In the result the Portuguese were defeated and driven out to sea. Foiled in this direction, the Portuguese commander took his vessels to Itan, the capital of Amboina, where, according to an old writer, his men "murdered cruelly and without distinction all the inhabitants and pulled up the clove trees by the root, that the Dutch might reap no benefit by them." After this, it was a war *à outrance* between the representatives of the two nations in the East. Soon the Portuguese had reason to regret having entered upon the contest. As early as 1604, the



ACTION BETWEEN THE DUTCH AND PORTUGUESE FLEETS OFF MALACCA ON OCTOBER 22, 1606.

(From Terwogt's "Land van Jan Pieterszoon Coen.")

(in reference to an attack made on the Dutchmen) that the latter had forgotten and forgiven what was done and praying not to prosecute those who were the authors, as it would not be remedied with a handful of blood; neither the dead could be revived by it.

At the end of the audience, the Dutchmen were hospitably entertained by the King. The tables were laden with fruit, and arrack was brought. The visitors were invited to take what they liked, and the King evinced great pleasure "in the way of eating of the

English Ambassador, writing from Bayonne, reported to Secretary Cecil that the Dutch had "quite spoiled their (the Spanish and Portuguese) commerce in the South ports," and that as a consequence of their action, "no man dared budge forth or venture anything." Three years later it was stated that the losses incurred in the East Indies at the hands of the Dutch were of such a character as to have inflicted "in those places a wound almost incurable." The English traders established at Bantam looked on very complacently while the pretensions of the Portuguese to universal dominion in the Eastern Trade world were combated in the vigorous manner indicated. Gabriel Towerson, the English agent at Bantam, in a letter dated October 26, 1606,† to the Company in England, reports that the Dutch "did much service" in securing several places which the Portuguese threatened to overrun, and from which they intended to expel Dutch and English, and he went on to describe a "very hot fight" which had taken place a short time before between a Portuguese armada of twenty-six ships and a Dutch squadron of eleven ships, under Admiral Cornelis Matelief. The contest, he stated, had lasted several days, and had ended in the defeat of the Portuguese and the capture of their admiral by the Dutch. The Dutch, however, did not attain their object, the possession of Malacca, and the battle was a very bloody one for them, their losses numbering 600 men killed. Towerson thought that the Dutch would surely have had Malacca if the armada had not come up unexpectedly while they were engaged in the attack on the town.

The war was prosecuted on the Dutch side with a relentless vigour which left the Portuguese no time effectively to reorganise their forces. The spirit of the conflict is well reflected in the following secret instructions given to the commander of the ship *Gelderland* on March 22, 1607:—"You shall also keep in mind wherever you will find Portuguese, Spaniards, or their goods, to attack them and to damage them as much as possible. The ships that cannot be of any use to you shall burn and in no way pardon them for money, even not persons of distinction, if they cannot be exchanged for some prisoners of the Company's; in that case you shall bring them with you, all in accordance with the Act of the States General, a copy whereof is enclosed." It was intimated that the States General on their side were fitting out an armada of thirty-one vessels to intercept ships leaving Portuguese ports. With varying fortunes, but for the most part with victory to the Dutch arms, the warfare continued for several years. In May, 1608, Admiral Van Caerden left Amboina for Ternate in command of a squadron with intent "to damage our enemies as much as possible." The Portuguese, however, were too strongly fortified both here and at Tidore, which he subsequently visited, but his cruise was not without result, for he effected a landing on the island of Machian and captured a town there, the inhabitants of which had always been friends with the Portuguese. This and other minor advantages secured at this period, strengthened the Dutch position in the Moluccas and correspondingly weakened that of their enemies and rivals. At last, in 1608, there was a cessation of hostilities under a compact which provided for an armistice for a period of twelve years.

The absorption of the Dutch in the struggle

with the Portuguese did not prevent them from giving a close attention to their purely commercial interests. In the early years of the seventeenth century factories had been established at Masulipatam, Pulicat, and Pettipolli on the coast of India; at Succadana in Borneo, and at Patani in Siam. Feelers had also been thrown out with a view to the formation of a trading connection with the Persian Gulf and Western India on the one side, and China on the other. These early Dutch, in fact, were prepared to go whithersoever there was a lucrative trade to be done, and they did not count the cost either in money or in flesh and blood. Able in diplomacy as they were skilful in commerce they lost no opportunity of utilising the influence of the head of their State whenever they could do so with effect. Thus it came about that in 1608 several ambassadors from the Court of Siam were forwarded in Dutch ships to the Hague to pay their respects to Prince Maurice. The mission, being the first of its kind, naturally attracted



FIRST GOVERNOR-GENERAL OF
NETHERLANDS INDIA 1610-14.

much attention in Europe at the time, but its influence was greatest in the East, where the fame of the energetic race, to whose ruler it had been accredited, was spread abroad by the Siamese visitors on their return, and no doubt greatly helped to strengthen the growing hold the Dutch had on the trade of the Eastern seas. In another and more important direction, Prince Maurice's aid was invoked by the directors of the Dutch East India Company at this period. They induced him to write a letter to the Emperor of Japan, and so to pave the way for what was subsequently to prove a highly lucrative intercourse with the Island Empire. This communication, which is dated December 18, 1610, opened with a reference to the kindness shown to Captain Jacob Jansen Kuachernach, who had arrived in Japan four years previously with his ship

and crew "in a very miserable state," and alluded to the high respect for the name and person of his Majesty which had been inspired by these benevolent deeds. The letter continued:—

"My subjects took also great trouble some time ago and made large expenses to establish trade in the kingdom of China, and have been three times with their ships on the rivers of the said country and sent once factors ashore, but immediately the Portuguese, according to their old custom, had obtained so much from the governors or mandarins with stories, falsities, and presents, and given such a bad name to my subjects that they had to leave the country and the rivers without having been heard.

"And as I think those Portuguese and Castilians will continue their old customs with all possible cunning and fraud, specially to try that my subjects are turned out of Your Imperial Majesty's powerful Empire, not for the loss they (the Portuguese and Castilians) might suffer in trade, but for the fear they have that their pretended monarchy of all the world might be put to the pillory, whereby it would lose very much; so I pray Your Imperial Majesty kindly not to believe their slander, as it comes out of the mouth of enemies, for they will surely be caught in their own snares as appeared some years ago at Bantam, Patani, and at other places, where they did the same with the same purposes, but there they are turned out for their deceit, arrogance and the untruth they appeared to have told, while my subjects ever since have been treated and received friendly and faithfully. And that they might be frustrated in all their intentions, I also pray that it may please Your Imperial Majesty to prevent with all careful prudence the double crafty deeds of the Jesuits or Fathers of the Comp., who under the pretence of religious saintliness, gradually try to divide Your Imperial Majesty's excellent Empire; to separate it into two factions and then bring it to civil war, all by changing the religion, so that they might reach their purposes so much the better, as they see they are unable to reach them otherwise.

"I thank Your Imperial Majesty also very much for the promises given to those persons who remain in Your Majesty's country for trading purposes, viz., to take them in Your Imperial Majesty's protection, promising them all favour and assistance, trusting your Imperial Majesty will continue this for ever."

Some little time after this letter was forwarded to its destination, the directors of the company at Amsterdam received from a correspondent at Nagasaki a communication strongly urging them to embark upon the Japanese trade. The Japanese, the writer stated, were specially friends with those who brought them what they wanted, and who were profitable to them. Much might be done with presents. The Portuguese were very liberal in giving presents and spending money. But the Dutch were still greatly respected by them, though a rumour was current that the Dutch only went to Japan for the carracks from Macao and Manila. The correspondent went on to supply a sketch of the needs of the market.

There was, the writer said, a great demand for glass work; much money could be obtained for different sorts of pots. Of glass windows 30,000 or 40,000 could be sold within a short time. "The prices were so much the higher as silver was only little worth in Japan and the inhabitants were very fond of everything which was curious and new." "Bottles, especially those covered

* Calendar of State Papers, Colonial Series, No. 337, Vol. 155.

† Calendar of State Papers, No. 337, Vol. 155.

with leather which were made in England; stone jugs and looking glasses, especially large ones in gilt frames," were mentioned as articles which would sell well. The Dutch East India Company, long before the receipt of this communication, had made their plans for attacking the Japanese market, and the year 1611 found them established there under conditions which promised auspiciously for the future.

In the same year the Dutch administrative organisation in the East took shape by the appointment of a Governor-General and Council to direct the Company's affairs. The first to occupy the supreme office was Pieter Both, who was born at Amersfoort, and who had been admiral of the fleet of the New Brabant Company. He was appointed by resolution of the States General on November 29, 1600, on the nomination of the committee of the East India Company. He left Holland on January 30, 1610, and arrived at Bantam on December 19 of the same year. His term of office extended to November 6, 1614, when he handed over charge to Gerard Reynst. On his way back to Holland Both was drowned off Mauritius in the wreck of the ship *Delft*, in which he was travelling, and was buried on the island. According to Valentyn, Pieter Both's Mountain and Pieter Both's Bay are both named in his memory.

Before this stage had been reached in the history of the development of Dutch power in the East, a new and serious obstacle to the full realisation of their plans had arisen in the creation of a feeling of antagonism between the English and the Dutch. Probably, having regard to the characteristics of both races and to the intensity of the trade rivalry between the two countries, even at that early stage friction was inevitable. But at the outset there seems to have been a desire for friendly co-operation in an enterprise which, if successful, would inflict heavy damage upon a common enemy. A pleasant glimpse of the relations of the two races is furnished in the narrative of an English factor who was at Bantam at the time of the arrival of Van Warwyck's fleet in 1603. "The English," says the writer, referring to Van Warwyck, "were very much beholden to this general for wine and bread, besides many other necessities and courtesies received at his hands. He would often tell them how Sir Richard Luson relieved him at sea when he was likely to perish, and that for the same reason he was bound to be kind to Englishmen wherever he met with them. To speak truth, there was not anything in his ships for the relief of sick men but they might have commanded it as freely as if it had been their own. He likewise expressed himself with great respect always of the Queen (Elizabeth). But there were some of the baser sort in the fleet who spoke very unbecoming things of her in discourse with the Javans." Unhappily, this friendly spirit did not long continue between the representatives of the two nations. Bickerings and quarrels arose in reference to trade at many points, but most notably in the Eastern Islands, where both were seeking to exploit the highly lucrative spice trade. The English had anticipated the Dutch not only at Bantam but also in the Moluccas, where Sir Francis Drake in 1579 and Sir Henry Middleton in 1604 had established friendly relations with the native authorities, though no formal compacts were entered into by them. But the Dutch took the view that their exertions in the war with the Portuguese gave them rights which over-

rode the slender claims of the English, based upon mere visits of vessels a good many years before. They were willing to admit the English to a share of the trade, but it must be upon terms. If the English shared the benefits they must also share the costs. It was not an unreasonable attitude to take up, but the London directorate were frightened at assuming responsibility for any share of the extremely heavy charges which they knew the Dutch must have incurred in fitting out fleets to combat the Portuguese, and, moreover, they relied upon their ability to push an independent trade even in the face of Dutch opposition. The progress of events showed that the English had seriously miscalculated the situation. Their essays to establish trade connections in the Moluccas were met by a steady policy of obstructiveness on the part of the Dutch. The rivalry went on with growing bitterness until, in 1611, the English East India Company, "having long endured notorious injuries," were "enforced to break silence and complain of their griefs." In a petition to the Government, they implored the Lord Treasurer's assistance and mediation with the States for redress. In

India Company's ship *Darling*, proceeded to Macassar, in Celebes, and with the assent of the King established a factory there. Captain Jourdain had been at Amboina with the object of trading, but had not been suffered to land there or at any contiguous place, "neither to take a house by way of a factory, nor even to arrange the goods and separate the wet from the dry, the Hollanders prohibiting the country people, on pain of their heads, from dealing with us." The Dutch, though they could not prohibit this move to Macassar, did their best to discredit it, as their policy was to keep their rivals at full arm's length. However, the King of Macassar, who had his own reasons for not loving the Dutch, stood by the English, and the factory remained. In 1615, an English sloop was sent to Amboina with instructions to its commander to settle a factory at Banda. The London directors encouraged their factors in the attempt, the view taken by them being that although the Hollanders might "threaten to take anyone who do but peep into these parts, they will be better advised than to proceed with open force to make the English their enemies."†



SECOND GOVERNOR-GENERAL OF NETHERLANDS INDIA 1614-15.

consequence of this appeal, the English Ambassador at The Hague was instructed to make the proper remonstrance in the Assembly of the States General. Subsequently, in 1613, Dutch commissioners were sent to London to settle the points of difference. The conferences lasted two months, and then, as there did not appear to be any prospect of an agreement, the matters at issue, on the King's suggestion, were left over to be dealt with in a future treaty. Meanwhile, the English Company had despatched a vessel to Bachian, one of the Moluccas. This island, it was represented in the English records, had been offered to Sir Henry Middleton for a trade settlement on the occasion of his visit, but, failing his re-appearance in the East, had fallen under Dutch influence. "The people desired to trade with the English, but the Flemings sent great ships to prevent it and threatened the islanders with punishment." At Ternate and Tidore it was hoped the company would not put up with such unsupportable injuries." In July, 1613, Captain Jourdain, of the English East

While this enterprise was proceeding another effort was in progress to arrive at an amicable settlement of the disputes between the two companies. On February 14, 1615, the States General appointed seven commissioners (amongst them De Groot) to proceed to London to act as their representatives at the conference with the English to settle the difficulties which had arisen between the two nations "because when neglected in the beginning such difficulties might in the end untie and unloosen the bond of friendship (which we hope will last for ever)." The pious aspiration embodied in the concluding sentence was, unfortunately, not destined to be realised. The conference was a failure, as the previous one had been. Indeed, it tended if anything to exacerbate the feelings of the two parties rather than to moderate the tension. In the correspondence which figures amongst the records at The Hague we get a clear glimpse of the lines upon which the controversy was

* "A New Collection of Voyages and Travels," p. 288.

• Celebes Records, India Office.
† Calendar of State Papers, Colonial Series, Vol. 138.

conducted at the conference. At the outset, it appears, the English delegates raised the question of whether the Dutch action in hampering the trading operations of the English company was right and reasonable, even if it was possible—possible being used apparently in the sense of the feasibility of the policy. Under the first head, as to whether the action was right, the Dutch maintained that "having obtained certain powers by concluding treaties with the native princes, giving them the exclusive right to trade, they were properly enforceable, and that though the English were not bound by the said treaties, they were not allowed to buy from the Indians what the Indians were not justified to sell, having once disposed of it." As to the *reasonableness* of the action, the Dutch contended "that it was reasonable that he who would enjoy a part of the profits, also should bear part of the expenses necessary to come to the said profits." The principle of this contention was admitted by the English, but the question was raised whether the warlike expenses incurred in combating the power of the Portuguese and the Spaniards had any necessary connection with the profit. To this the Dutch replied that they were prepared to submit documentary evidence to show "that it is the intention of Portuguese and Spaniards to exclude all other nations from access to and trade with the Indies generally, not pretending in cause thereof anything else against us, as they pretend also against the English and all other nations, wherefrom it appears that if they sometimes have allowed the English to trade, this has not been with the intention to continue to do so, but only to oblige them for a time." In regard to the *possibility* of the action it was urged on the Dutch behalf that "neither they nor the English could have traded in any part of the Indies with any hope of maintaining their position if the Indies had not been protected and the power of the Spaniards resisted." It was held that such could not have been done if there had been no income, and that it would have been impossible to find an income "if your people (the English) would have a part of the profits which were made in those quarters which the Spaniards and we contested with the arms in hand." For these reasons the Dutch would expect from the English "some proposal by which we may unite more and more our affections and powers and thereby bring the Spaniards to reason and discretion, who, arrogant by the possession of the Indies, do not know (how) to make an end or to mitigate their insatiable appetites."

Another document, which though not apparently a reply to the foregoing, yet traverses the arguments brought forward in it, is a letter from the English commissioners summarising their case. It was here contended that "it was unreasonable that the struggle between Spain and Holland should prevent the English from trading in places with which they were aforetime accustomed to trade. The other argument, too, was not more conclusive, viz., that as the Spaniard had interrupted you and compelled to such great expenses as it is said, you wanted to establish your trade in the East Indies, we should suffer a punishment for it, who had assisted you with all sorts of good services of friendship and respect. Moreover, that it could not be denied that the argument of heavy expenses, possession, effusion of blood, fleets, conquests and garrisons, was not also one of the reasons which the Spaniard uses to take into possession as well the East as the West Indies, while you contradict him in this point yourselves."

As to the point of contracts or treaties, it was answered in the same way, that "we

too had made contracts with the native princes, before they even knew the name of the Dutch, and that we did not doubt that we could prove them more conclusively than anyone has done afterwards, and to show this we told very extensively of the continuous trade we carried on in those regions of the East Indies which are now the point of the question, and this since the year 1579 when Sir Francis Drake arrived at Ternate and made his Treaty of Peace, lading giroffe clove and establishing a trade with the King of the said island, which lasted till he was prevented and interrupted by the Dutch. But suppose such a trade and treaty had never been made between the King of Ternate and us, and the one you made might be such as you pretend, yet it is not reasonable to think, therefore, that one might be of so general a character that we might be prevented from trading with that nation. And although we acknowledge that the law of nations (in itself in some measure infinite and unlimited) might be limited and bound by the positive (or supposed) law of the princes, this should, however, be admitted



(Reproduced from the Java Records at the India Office, Whitehall.)

and understood in such way that the fundamental part of it were not reversed and thrown over. Yet that one nation should forbid another nation, neither subjected to it nor consenting, free trade, this is really and effectively to throw over the traffic and trade which ought to remain always open and free to all nations."

The communication concluded with this emphatic declaration: "We insist at present like in the beginning on the safety of a free trade for all nations, people and places of the East Indies without any limitation or hindrance as a thing due to us by the law of nations and by the common equity, notwithstanding all you have alleged to the contrary."

In a further letter, undated, the English commissioners recapitulated the points of the controversy and re-affirmed their views in favour of a free and unfettered trade. As their former arguments did not appear to have been answered, they cited from various Dutch writers on political economy certain maxims in favour of free trade. Thus: "Freedom of commerce is a right of every

human being by nature and birthright; it is a right which can neither be preserved nor maintained too curiously (jealously), nor its loss be prevented too carefully." Again: "Prohibition or interdiction of Free Trade is a servitude, and servitude is such a dishonourable matter that no compensation is sufficient to induce a free mind to endure it." After intimating that these maxims were extracted from Dutch pamphlets recommending Free Trade in the Indies, the letter proceeds: "If those arguments are of value with you against the Spaniards, they will be found even more just for us, who are your good friends and allies here and elsewhere." The letter thus concludes: "As to the point that we did not make any proposition for the uniting of our forces against the Spaniard, we tell you that the thing on which we insist, is the liberty of commerce as the first means to unite our affections against all those who oppose us and the effects whereof could succeed as well to your satisfaction as to ours, which liberty we ask *jure gentium* and for the reasons stated above; and we hope, gentlemen, that you will be disposed to consider our demands as most just and reasonable."*

It is to be gathered from this correspondence that the controversy turned mainly on the question of finance. In point of fact, a proposal was made at this period by the Dutch company for a joint stock, and it was the refusal of this offer which led to the failure of the negotiations. The ground work of the Dutch propositions was that £1,100,000 or £1,200,000 should be put into stock by the two companies together. The English directors were strongly urged by King James to accept the offer, but they did not like the heavy commitments of the Dutch in the East at this period. The Amsterdam company had there, according to a report made to the company by the commissioners, fifty-one ships, a stock of £600,000, and a debt of £400,000 for which they had to pay interest. There did not, at that juncture, appear to be sufficient profit in the Eastern trade to justify this heavy burden of liability, and though Sir Noel Caron, the Dutch Ambassador in London, worked strenuously for some time to obtain assent to the scheme, he met with a firm but polite refusal. He was told that the company could not join with his nation, but that "they desired to have good correspondence with them in the Indies."† The rejection of their overtures was a cause of much heartburning to the Dutch, who were not at all disposed to that "good correspondence" which their English rivals sought, without some satisfactory arrangement as to the expenses which were so heavy a drain upon their resources. From that moment it became a case of war to the knife between the representatives of the two companies.

Only a short period elapsed before there was a renewal of hostilities. Indeed, they had never really ceased in the East, for the rivalry of the two companies' representatives was such that they took no account of the course of events in Europe without the direct instructions of their employers. In the early part of 1615, George Cockayne, the English factor at Macassar, proceeded to Banda in accordance with the directions of the company already noted, but arriving at Neira, the seat of the Dutch factory, he met with a very hostile reception, and was ultimately compelled to leave. Returning to Macassar, he found a

* MSS. Dutch Records at The Hague, Translation at the India Office, Whitehall. Edited by Mr. F. C. Danvers.
† Calendar of State Papers, Colonial Series, Vol. 158.

deplorable state of affairs to exist. The English who had been left in charge had, wrote Cokayne in a letter, embarked in a Dutch ship for Bantam, "the factory goods were loose, while the King and country, disliking the proceedings which had passed between the English and Dutch, desired us to lade the remains in the factory and quietly depart." However, the writer, "by diligent means, brought the King to conceive a better opinion of us, and to give his consent to the re-establishing the Company's factory in his country." The Dutch anxiety to keep the English away from the Moluccas was the greater at this time because of a rising of the Bandanese which was giving them a considerable amount of anxiety. In one conflict they had lost three hundred men, and their prestige had been lowered by that untoward incident. On their part, the English factors showed a disposition to make common cause with the natives. While hostilities were proceeding, a leading Bandanese was sent from the English factory which then existed at Pulo Way to Bantam, to negotiate with the English chief the conditions of an agreement between themselves and the English. Not unnaturally, the friction became so great that, as one of the English factors at Bantam wrote, "it hath bred quite a strangeness between them." The situation, of course, was not improved when, in October, 1616, the ships *Swaan* and *Defence* were sent from Bantam to Banda, under the orders of Nathaniel Courthope, charged with the duty of establishing a factory at Banda. Courthope's instructions were of a very definite character. If the Flemings' threats put him in doubt of his safety, he was told that some ordnance might be landed "provided that they allot you a place where to mount them, and that you may be masters and commanders of the place and ordnance." He was to certify his position to the Hollanders, and if they offered violence, he was to the utmost of his power, "even to the loss of lives and goods to make good the same." Courthope, in pursuance of his mission, proceeded to the Moluccas, and arrived there in December, 1616. A cordial reception was given to him by the native authorities on the islands, and ultimately he effected a lodgment on Pulo Roon and Rosengyn, two small islands off Banda. According to an English letter of the period, the natives of Pulo Roon "made surrender of the island with earth and a young tree, and with writings drawn and confirmed under the hands of the principal gentry and seal or chop of the country." Rosengyn was transferred with like formalities. Following up this advantage, the English landed stores and guns on Pulo Roon, and prepared to settle themselves comfortably and permanently. But they were not left long in undisturbed enjoyment of their newly acquired possessions. The Dutch, who had been narrowly watching their movements from Neira, in Banda, swooped down in force upon the *Swaan* as she was leaving Pulo Roon, and after a stiff engagement, in which five of the English were killed and many others wounded, captured the vessel, and took her to Neira, where the crew were incarcerated. Meanwhile, the crew of the *Defence*, in the absence of her master, had surrendered her to the Dutch, so that practically Courthope was isolated. An indignant remonstrance was immediately lodged by the English chief against this high-handed action, and the restitution of the ships was demanded. The reply given by the Dutch was an emphatic refusal to restore the ships except upon the condition that the English evacuated Pulo

Roon and Rosengyn, and disclaimed all interests, not only in these places, but in the entire Molucca group. Courthope, though badly crippled by the losses he had sustained, decided to hold on to his post, and he did so for two years with a constancy and devotion to his employers which won for him subsequently a place in the roll of the English East India Company's worthies.

The Dutch were greatly exasperated at the obstinate determination of their rivals to obtain a footing in the Moluccas. When it was discovered that Courthope had no intention to quit his post, the Dutch Council, which by this time had removed to Jakatra, decided to take strong measures to clear out of their cherished sphere of influence the English and all other poachers. Under the sign manual of Laurence Reaal, the successor of Gerard Reynst in the office of Governor-General, the following proclamation was issued on November 19, 1617:—



THIRD GOVERNOR-GENERAL OF
NETHERLANDS INDIA (1616-19).

"Whereas the English some time ago at the places where we have forts and factories and are in contract with the natives that they shall deliver the products of their country only to us, not only try to undermine our trade of nutmeg, mace, clove and other products of the said countries and to make our contracts fruitless directly and indirectly, but also have supplied and strengthened our enemies, as well Spaniards as Bandanese, with ammunition and food as they have even opposed us formally some time ago at Pouleron (Pulo Roon); and whereas it appears that several others, not only French, Scotch and other foreigners, but even our own nation, especially those who, as we understand, will take the Southern passage through the Strait of Magellan and thus will make the charter granted to the United East India Company illusory, will go the same way.

"So it is that we to prevent any further damage being done to the Company, according to the preceding order, have authorised, com-

manded and directed as we authorise and direct hereby all governors, commanders, merchants, shippers, captains, and generals under our command to attack with arms vehemently the English, French and others whoever they are, if they are found in the said quarters, viz., to conquer them or to make them leave; and to take all other vessels that might come hither through the Strait of Magellan passing the South land* or otherwise, wherever they might arrive in the Indies, to divide the people over our own ships and to use the ships for our own service in these countries, without accepting any excuses that the said ships have arrived at any of the said places by necessity, ignorance, or to save their lives, or only to refresh."†

The day following the issue of this proclamation, Reaal forwarded to George Ball, the chief English factor at Bantam, a letter charging the English with having incited the natives against them for years, and with having gone so far in Pulo Roon as to side formally with their enemies, "occupying the country with batteries, all sorts of ammunition, and a great number of soldiers." These things, Reaal stated, the Dutch "neither allowed nor intended to suffer," and consequently, "as compensation and in order to prevent more damage," they demanded the evacuation of the island. If the English refuse, the letter went on to say, "we protest and declare ourselves guiltless of all loss, bloodshed and any mischief which might be the outcome of it, and be you and all English captains, officers and ordinary sailors warned hereby that if they visit with their ships the said quarters of the Moluccas, Amboina and Banda, we will believe you to be willing to continue maliciously your said usual pernicious proceedings, wherefore we have ordered on purpose, as we do hereby, all our governors, commanders, captains and all other officers to take or to drive away your ships and your people when visiting the said quarters of the Moluccas, Banda and Amboina . . .

"Moreover, as you keep several of our people, prisoners as well as otherwise, who were in our service before, we claim their restitution; if you refuse we shall have to help ourselves with all means time and opportunity will give us, believing ourselves to be guiltless before God and the world, if this might have important consequences in the loss of one party or other."

Mr. George Ball sent a spirited reply to this communication. Addressing the Dutch Governor-General, he said: "Were your protestations as notorious as your insinuations are common, yet are not we to desist from what is just and honest; neither is the custom of ill strife in us as in yourselves, who contrary to the bonds of amity betwixt his Majesty of England and States of the United Provinces have most unjustly and in hostile manner robbed our employers of their ships and goods, murdered and imprisoned their people. And whereas you impute unto us the frustrating of your contracts and accords with the inhabitants of the Moluccas, Amboyna and Banda, I do insert them among the number of your accustomed untruths. As for our people and torts upon Pooloroone required by you to be removed, and razed and to leave it as we found it, I tell thee that that land with others more belong to the Crown of England and the inhabitants, as I am, subjectes to his Majesty of England, and by us in all reason to be defended and made

* This is probably a reference to Australia. There are several such in these early Dutch records.

† MSS. Dutch Records at The Hague; Translation at the India Office.

good against all unjust demands and actions whatsoever either in you or others. For your warning mee and all generall captayns, officers and common mariners not to come about the countryes of the Moluccas, Amboyna and Banda, I doe neither acknowledge your power nor command, nor respect your threats to cease and chase them away. And doe therefore charge thee by the bonds of amity betwixt our nations and by the faith of a Christian (if there be any remembrance thereof left in you) that you persist not in your evil beginnings (*sic*) to the effusion of Christian blood. . . . God and a just cause for my comfort and you a foul and horrid and shameful matter in hand, which if you prosecute with force, the sum of your justice neither God nor man will hold you excused. Hitherto I have shed no blood, and if blood must be shed it shall not be my fault it being lawfull in defence of myself to do my best."

In a previous communication sent off after the receipt of the ultimatum, Ball said: "The Right Honble and Right Worl^d our Company intendeth nothing but an honest trade in these pts., prohibiting us to rob or make spoyle of any persons trading in the course of merchandise, unless they first gave occasion, which their instructions I have in like manner followed. But nevther the louve of God nor of nations forbid to succour the afflicted, nor if any people will freely give over themselves and become vassals of a King or monarch, why he or his ministers should not receive them into his protection. I have never heard, or hath it been made known unto me, that either any King or State doth pretend or challenge any just dominion or superiority over these places before mentioned, without that His Majesty of Spayne (whose subjects hath been the first Christians that have conquered in these parts) many pretend, claim or right unto them. And therefore in this poynt (as in all the rest wherewith you charge us) we have not erred, but the contrary have given many and sundry times rare testimony of our sincere and true affection to your nation, and especially in the life time of our late Queene of glorious memory, who maintained with ye loss of many thousands of her subjects' lives, your wealths and liberties. . . . But it seemeth that the remembrance of fore passed good turns are forgotten and that you goe about and practyse by all sinister meanes

to break and unhinde this long continued amity and peace that hath been betwixt us, lustily complaining of wrongs and outrages, web indeed yor people have always been the beginners of, in which unchristianlike proceeding, what could wee doe less than wee have done? except you imagine it lawfull for you to attempt all force and violence with impuntee and that wee in the meantime (not unlyke effemynate personnes) should sit still as without hands, and suffer our throats to be cut like sheep."

It is clear from this correspondence that matters had reached a point at which the issues could only be settled by arbitrament of arms. Each party had an invincible belief in the justice of its case. The Dutch felt that having at great cost built up a position for themselves in the Moluccas and made exclusive agreements with the natives they were entitled to undisputed enjoyment of their hard-won privileges. The English, on their part, were not disposed to admit any right which shut them out of lucrative markets. Their object was trade, and they declined to accept as obstacles to commercial intercourse agreements of a monopolistic kind, made with native chiefs who did not always realize the nature of the contracts they were signing. At the moment, however, the English were in no position in the East to enter upon a prolonged struggle. For years, owing to Dutch opposition and other causes, the business done had not been lucrative, and it was consequently difficult to obtain sufficient capital to finance the different ventures. The unsatisfactory condition of affairs is reflected in a communication sent home from Bantam, under date January 19, 1618, by George Ball and his two colleagues of the English factory there. Many were invited out by golden rewards, said the writers, but none stayed; indeed, it were madness to do so. "At home men are famous for doing nothing, here they are infamous for their honest endeavours. At home is respect and reward; abroad, disrespect and heartbreaking. At home is augmentation of wages; abroad, no more than the third of wages. At home is content; abroad, nothing so much as griefs, cares and displeasure. At home is safety; abroad no security. At home is liberty; abroad, the best is bondage. And, in a word, at home all things are as a man may wish, and here nothing answerable to merit."

This bitter diatribe seems to have been wrung from the very hearts of the factors. No doubt their position at the period was not an enviable one. They had cast upon them the burden of great and increasing responsibilities, and as year succeeded year their equipment for meeting them became less. Nor was there any immediate prospect of an improvement in the situation. Indeed, the aggressiveness of the Dutch made it probable that they might at no distant date have to fight even for the precarious foothold they had at Bantam. The English Company, however, was not sitting down quietly under the violent rebuffs that had been administered to it. In September, 1618, it drew up two formal declarations of complaints, one of which was presented to the King and the other to the Privy Council.* In these documents the Company complained of "the efforts of the Hollanders to dispossess them by force of many places in the East Indies," of their "most outrageous behaviour as any mortal enemies could do," and of the seizure of the Company's ships. These declarations were, by the King's commands, sent to The Hague to the English ambassador, who was instructed to present them to the States General, and to demand their answers "how far they will allow these insolencies of their subjects and how they will punish them and make reparation." The English representative at the Dutch Court was directed to insist particularly that the Government should send commissioners "articulately instructed to give satisfaction at the treaty instantly to be held between us and them." The negotiations ended in the appointment by the States General of ten commissioners, four of whom were members of their own body, and the other six directors of the Dutch East India Company. Arriving in England at the end of November, 1618, they were given audience of the King at Newmarket on December 10, and had an unpleasant quarter of an hour with His Majesty, who took exception to the credentials they brought with them. Eventually, all preliminary difficulties being overcome, the commissioners, with a similar body of English commissioners, commenced their sittings at Merchant Taylors' Hall in the City of London.

* Calendar of State Papers, Colonial Series, No. 425, Vol. 150.

CHAPTER IV.

Withdrawal of the Dutch from Bantam and the Establishment of their Factory at Jakatra—English also establish a Factory at Jakatra—Outbreak of War between the Dutch and the King of Jakatra—Seizure of a Dutch Ship by the English—Fleet under Sir Thomas Dale attacks Dutch at Jakatra—Dutch Fleet withdraws to the Moluccas—Dale's Account of the Fight—Dutch Fort at Jakatra surrenders to the English—Dale retires to Pulo Besse and ultimately returns with his Fleet to India—Coen re-occupies the Dutch Fort at Jakatra and christens the Position Batavia—Attack on English Ships at Patani—Conclusion of Treaty of Defence.

WHILE the representatives of the two nations at home were attempting to find a way to a settlement of differences, events in the East were moving rapidly towards a serious crisis. For a proper understanding of the situation, it is necessary to take a brief retrospective glance at the local position in Java. For a good many years previous to the period at

which the narrative has arrived there had been trouble between the Dutch and the authorities at Bantam arising out of the claim of the former to monopolise the trade on the strength of agreements concluded with the Sultan. The disputes at length reached such a point that in 1611 the Dutch withdrew altogether from Bantam and estab-

lished themselves at Jakatra. The Javan account of the circumstances under which the Dutch introduced themselves to the site of "the Queen of the East" is interesting, and from some points of view amusing, and may be reproduced here. "The Dutch," they say, "before they arrived at Jakatra had formed an alliance with the Sultan of Bantam.

They subsequently treated with the English and with Pangeran Jakarta; but in a short time they found the way to play off a foul stratagem on the latter. In the first place, when they wished to ascertain the strength and resources of Jakarta they landed like *mata-matas* (peons or messengers), the captain of the ship disguising himself with a turban, and accompanying several Khojas (Indian Mahomedan traders). When he had made his observations, he entered upon trade, offering, however, much better terms than were just, and making more presents than were necessary. A friendship thus took place between him and the prince; when this friendship was established, the captain informed the prince that his ship wanted repair, and the prince, at his request, allowed the vessel to be brought up the river. There the captain knocked out the planks of the bottom and sunk the vessel, to obtain a pretence for further delay, and then requested a very small piece of ground, on which he might build a shed, to store the sails and other property, while endeavours should be made to raise the vessel. This request was also complied with. The captain then made a wall or mound of mud so that nobody could know what he was doing, and in the meantime courted the friendship of the prince. He afterwards waited on the prince, and requested as much more land as could be covered by a buffalo's hide, on which he might build a small *pandok*. This being complied with, he cut the hide into strips, and claimed all the land he could enclose with them. To this also the prince, after some hesitation, consented." The change from Bantam to Jakarta was dictated by political considerations, but that Bantam had many and grave disadvantages is plain from the records of both the Dutch and the English East India Companies. Captain Doughton, of the latter company, in 1613, declared that "he that escapes without disease from that stinking stew of the Chinese part of Bantam must be of a strong constitution of body." About the same time Captain Middleton reported the occurrence of "great mortality amongst the factors," and Captain Best advised the company to leave Bantam and make their rendezvous at Jakarta, "the air being much more healthy and the King desirous of proffering them all kindness, where they shall pay but 3½ per cent. customs instead of 5½ per cent. as at Bantam." As a result of these representations, the factors were directed to deal with the King of Jakarta "to prevent these mischiefs," yet not to quit Bantam wholly, but to keep a small factory there "for providing pepper." In pursuance of these instructions, an English factory was established at Jakarta in the early part of 1619. At this time relations were strained all round. The Dutch and the English were in violent antagonism, and the King of Jakarta and the Sultan of Bantam had entered into an unholy alliance against the former, with the English as a more or less avowed partner in the combination. The outlook at length became so threatening that the Dutch Council decided to fortify their factory, and also to construct a redoubt on the island Onrust where the company's ships were as a rule refitted. Work was first commenced upon the factory, but, according to a Dutch narrative,† it proceeded with much difficulty because of the obstacles interposed by the English. The

operations soon attracted the suspicious notice of the native authorities. Spies came continually from the King of Jakarta and the Sultan of Bantam to take note of the progress of the work and to attempt to discover its object. At last "the King of Jakarta himself came with his noblemen to see the work, pretending he came to visit the president as he was used to do. He asked us earnestly what moved us to do it, on which we gave the said King of Jakarta an answer, and we kindly asked him not to be angry about it as he knew the fate of Japara's factory, that the English had even tried to have us murdered by our own people, and that he knew very well that some of them had formed the intention to destroy these houses, and that we expected the Spaniards and Portuguese also with a great Armada, wherefore we were obliged to fortify our factory a little more than it was before, and we had begun to do this without giving him any notice of it, not for pride, certainly, not for contempt, but only to prevent (as we knew very well the enemies would oppose it) any questions being raised by our opponents."

On October 22, the president convened a meeting on the ship *Wapen van Amsterdam* (Arms of Amsterdam) and discussed with his council the advisability of proceeding first with the redoubt at Jakarta or of constructing the works at Onrust. "All the

content and bad intention also very well from several conditions (incidents)." In course of time, the King established a boycott against the Dutch, prohibiting anyone from dealing with them on pain of death. Later, he asked for a loan of two thousand reals of eight "to try our feelings, as it was said, and at the same time as a present for fortifying his town as it pleased us." The money was paid, "and to show him that we were willing to contribute as the Chinese did to his fortifying the town, we presented him with two hundred reals on two different occasions." All this time, relations of the Dutch and English were undecided. "Many deliberations went on between those of Bantam and the English, their negotiations being very strange; at one time they corresponded in a familiar way with each other, and at another time they did as if they were sworn enemies of each other, every time giving us notice of what they thought proper to let us know, viz., what question there was between them, to what extent their animosity had grown and how they were reconciled." But, according to the Dutch writer of the chronicle, the English factors were only dissembling. All this time "they were assembling their power without us being able to hear anything of their intentions." The English at Bantam equipped fifteen



THE ISLAND OF ONRUST, NEAR BATAVIA.
(From a water-colour drawing at the India Office, Whitehall.)

councillors decided that the fortress of Jaccatra should first be completed, and, as some members remarked, as soon as possible." Some days afterwards, the work was resumed with all energy, sixty or seventy men being taken from the ship to render assistance. The King at first did not interfere with the work, but as soon as the fortifications were commenced on the land side he, "with tears in his eyes as seemed," protested. He sent several messages to the president, saying that "he should not make any bulwark on the land side opposite his bulwarks, as (so he said) this would cause such a fear amongst his people that they would all run away from Jaccatra and he would remain a King without people." If the president was resolved to continue the work in the face of his objections, he implored him "to work slowly and to place the cannon on the wall not too quickly, to prevent his people from being frightened." The work proceeded briskly, notwithstanding the wishes of the King. Meanwhile, "many conferences were held with the English"; but "we (the Dutch) were unable to hear anything of their intentions, for eternally they showed us great friendship though we could see their dis-

ships, large and small, old and new, and prepared for a descent on Jakarta. While matters were in this condition, the Dutch ship, the *Zwaarte Leeuw* (the Black Lion), arrived near Pulo Pandjang. "The English directly sent a ship with Adam Denton to them, the said Denton telling the director, Heyndrick Jansen, wonders of the great friendship between us and them, as the English sailors did likewise amongst our sailors; and as Denton was an old friend of the said Heyndrick Jansen, he moved the latter to go ashore with him, although our people did not trust the affair. Denton brought the said director on board (the ship of) the English Admiral, where he was detained, and as the *Zwaarte Leeuw* could not arrive in the roads of Bantam on that day, December 14, it anchored at the west side of Poelo Panjah, which caused much fulminating by the English Admiral and his council against the said Denton, whom they reproached with betraying the plot; which Denton protested against (saying) that if he had known anything of it he would never have gone to the *Zwaarte Leeuw*. We thought first this was a quarrel to excuse Denton for his treachery. However, the end showed

* Calendar of State Papers, Colonial Series, No. 146, &c.
† Account of the General War the English began against us in December, 1618, and of the beginning of the War at Jaccatra," MSS. Dutch Records at The Hague preserved at the India Office, Whitehall.

us that the English Admiral really had the intention, that he was afraid the *Zwarte Leeuw* would escape and sail to our ships at Jaccatra that night, while he had made a plan to keep our ships separated and bring them thus dexterously into their possession before we heard of their intention, so that we might have no power to resist them. That night, hurriedly, four of the best English ships were made ready, which approached the *Zwarte Leeuw* early in the morning, threatening to hang all the people if they did not surrender. The sailors, as it was said, were willing to fight, though the *Zwarte Leeuw* possessed only little powder, and the ship, being fully laden, was in a most disabled condition. Those of the *Zwarte Leeuw* whom Heyndrick Jansen ordered to remain there suspected the English had not a very good intention when they saw four excellent vessels approaching their ship. The anchor was wound (weighed), but when this was done

rough silk, some preserved ginger and other things worth on purchase 152,000 Reals. Moreover, 100 lasts of rice."

Having taken the *Zwarte Leeuw* thus into their possession, the English brought the director, Heyndrick Jansen, and the minor factor, Jan Jans Hoochlant, on shore. "After they had shown themselves very passionate and angry the Admiral said that we had caused great damage to the English Company, that we kept their people prisoners in the Moluccas like slaves, and that we murdered them by starvation—that they, therefore, avenged themselves at this moment and that they would take all our ships they could get—abusing General Coen violently, and that he, *coûte que coûte*, would make him prisoner dead or alive, yea, that he had him already in his power."

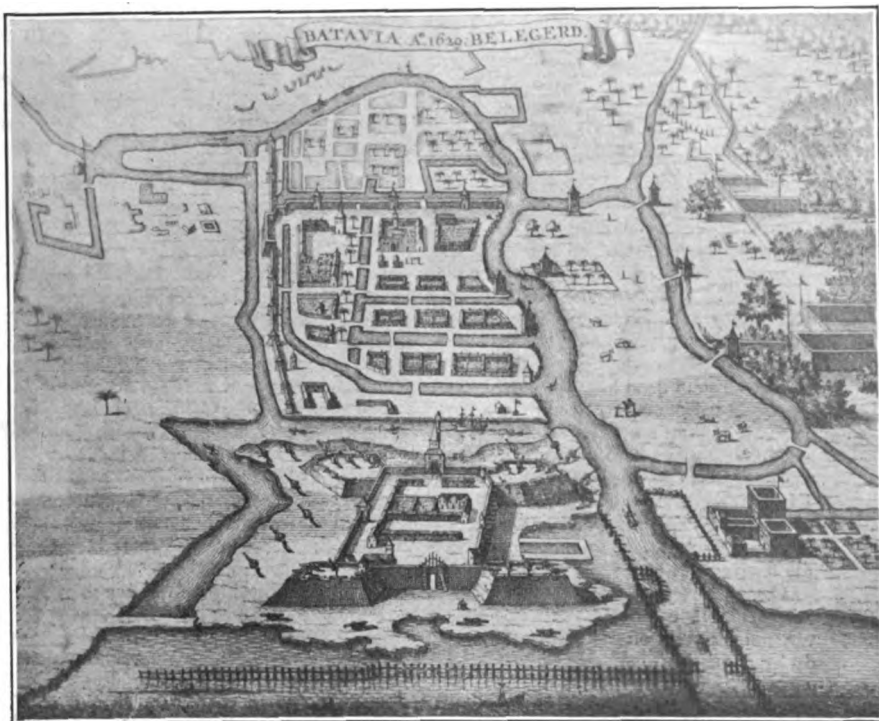
The Dutch crew, who had been given their freedom ashore contrived to convey news of the capture of the *Zwarte Leeuw* to their countrymen at Jakatra on the morning

Zwarte Leeuw, and asked him to maintain neutrality in the coming struggle. "The King acted as if he was very surprised and so did his noblemen, though we are sure he knew it all. He asked about it and was very anxious and curious to hear of it; and at last answered our people that it was not his business what was going on at sea between us and the English, but that he would keep his country open. However, we could see very well by their faces that the affair pleased them very much."

Almost simultaneously the Dutch made a protest to the Pangeran Governor of Bantam against the capture of the *Zwarte Leeuw*. They were told that the English had done wrong, "but that as we had taken the ship *St. Michael* some time ago, while it was sailing towards Bantam, he would not interfere this time, nor mind what was going on between us and the English; but he said it thus that our people could see by the faces of the Pangeran and many others, their wish was that we should be thoroughly thrown down, as it was advised by Abraham van Uffelen."

On December 17, a messenger was sent in a rowing boat to Djambi, to warn the Dutch there of what had happened at Bantam, telling them that the English were the greatest enemies of the Dutch, and that "if they dexterously or violently could take the English vessels which were lying at Jambi" they should do so, treating the English whom they might take prisoners well. About the same time negotiations were resumed with the King relative to the defences which the Dutch were constructing. The wily monarch proposed on the payment of a large sum of money to build a wall round the factory on the land side, but if this were done it was understood that the Dutch should cease their work upon the fortifications in that direction. On December 20, Le Febvre returned from Bantam bringing with him a letter from the English Admiral, Sir Thomas Dale,† saying that as the letter to him was an open one he would not reply to it. Le Febvre was, however, told by the English verbally that they would take all the Dutch ships they could get, and that they, therefore, were lying and waiting at the entrance to the Straits of Sunda.

The Dutch at the time were in a very indifferent condition to resist an attack. Of the four ships in port, one was refitting, another had no crew, and a third was fully laden and so was in no fighting trim. Nevertheless, it was resolved to make as good a fight as was possible in the circumstances. To this end the ships were arranged in the form of a half moon near the island of Onrust, the guns on which might be supposed to defend them. While the position seaward necessitated vigilance, the increasing activity of the King of Jakatra on the land side gave rise to great anxiety. In freshly raised fortifications the Javans mounted several pieces of cannon, some of which were transferred from the English factory. On their part the English in their factory across the river also raised a rampart on the side near the Dutch factory for the firing of heavy guns. Observing



PLAN OF BATAVIA IN ITS EARLIEST YEARS.

(From Valentyn's "Oud en Nieuw Oostindien".)

the English were quite near. The factor and shipper awakening too late, and then not seeing occasion to escape nor means to fight, became mediators between the crew and the English to surrender by treaty. While negotiations were going on some 7 or 8 English boats approached the vessel, the people entered the ship through the port holes, when our people, seeing themselves overwhelmed by so many enemies, surrendered at last on condition that each of the crew, with his luggage, could go whither he liked, without being pillaged, and that each would receive his full wages. Thus the ship, the *Zwarte Leeuw*, was taken by the English on 15 December, 1618, near Poelo Panjangan, before Bantam, without any warning or insinuation, the ship being laden with about 8,000 or 9,000 sacks of Bordelan and Ligor pepper, a large quantity of benzoin and

of December 16. The president immediately sent the senior factor, Le Febvre, to Bantam with an open letter to the English Admiral and his Council, asking explanations, protesting that he knew no reason for the grave action taken in the seizure of the *Zwarte Leeuw*, and demanding the release of the vessel. It was intimated that if the ship was not restored in the same condition in which it was when it was seized, the Dutch "would be obliged to compensate our loss with the means God our Lord would grant us, and we would not be guilty of all misery, bloodshed, damage, and loss which afterwards would be the outcome of it, as we were compelled by nature and justice to take the arms against them in those cases here and in other quarters."

On December 16 the president of the Dutch factory sent for the King of Jakatra and informed him of the capture of the

* Van Uffelen was a Dutchman who had been associated with the English at Bantam in their commercial adventures. He is styled in one of the Dutch records a "foul traitor," but ultimately he appears to have been taken into grace, for we find him actively co-operating with the Dutch later in some of their important enterprises.

† Sir Thomas Dale was Governor of the infant colony of Virginia, selected by the Virginia Company in London. It was he who brought over to England the celebrated Pocahontas, the daughter of Powhatan. Previous to that he had been in the service of the States General as a military commander.

these ominous indications of the coming storm, the Dutch president ordered every one in the factory, old and young without exception, to assist in completing the arrangements for defence. Afterwards, the president convened the Council to deliberate upon the situation. The position of affairs, he pointed out, was serious. The indications were that a concord existed between the Bantam and Jakatra people and the English with a view to driving them (the Dutch) out. Fortifications had been raised at various points "so that they were enclosed by several batteries as if in a cage." Therefore, it was necessary to come to a resolution without delay either to defend the position or to evacuate it. After deliberation, the Council decided to adopt an energetic policy—to, in fact, carry the war into the enemy's country by attacking the English. This was done after due warning had been given of the consequences that would follow if the work on the fortifications was not stopped. The attack on the English factory was delivered by a party of thirty musketeers, who rushed the premises, drove out the English factors and their Javanese allies, and, having set the houses on fire, returned. The hostilities thus commenced continued without intermission for the next two days. On Christmas Day, an attempt was made by the Dutch to seize a fortified position near the English factory which had caused great trouble. The adventure narrowly missed ending in a disaster owing to the action of a number of inexperienced soldiers, who retreated under the impression that an order had been given to that effect. Fortunately, the Javanese were not enterprising and did not pursue the flying soldiers. If they had done so, scarcely one of them would have escaped. Thereafter, another council was held to consider the policy to be adopted in view of the growing seriousness of the position. It was finally resolved to embark all the garrison with the principal goods on board the ships and go out to meet the English ships which were daily expected. On December 27, a muster was called, and it was found that there were in the factory "270 heads who could carry a musket, viz., 70 Europeans, 70 blacks, and the rest workmen, factors, clerks, &c." On December 30, a letter was received from Abraham van Uffelen at Bantam, conveying the news that the English had started with eleven ships from that place and would certainly attack the Dutch, and that their intention was to drive them from the Moluccas, Amboina, Banda, and from all the Indies. It was stated by the correspondent that the boasting of the English was extraordinary. "The English Admiral swore, when releasing the Dutch officers that he would hang them if he made them prisoners again." The English were particularly angry with General Coen. "He was the person who had done them all the harm, but *coûte que coûte* they would get him in their hands, alive or dead, as well as all our ships." Afterwards, the messenger who had been despatched with the second letter to the English returned. He confirmed the statements of Van Uffelen as to the temper of the English. "After he had opened the letter the Admiral only scolded, stamped on the ground, swore, cursed (and asked) why the letters were written in Dutch and not in French, Spanish, Latin or any other language if we didn't like to write English. The only reply he gave was that he would bring his answer to General Coen himself; that the latter would know their intentions very well by the *Zwarte Leeuw*; swearing and cursing that he would take all he could get." On learning that their houses

at Jakatra had been burnt, the English at Bantam became very indignant, and wanted to retaliate by burning the Dutch factory there. But the Pangeran Governor would not allow the thing to be done, and put a number of his men in the Dutch factory as a protection.

The arrival of the English fleet off Jakatra on December 30 found the Dutch divided in opinion as to what course should be pursued. Notwithstanding the vote of the council a section were for retaining the position on shore, they being of opinion "that it would be a dishonour to leave the fortress of Jakatra with such a quantity of good cannon and many goods which could not be brought on the ships . . . only for some trifling threats and some boasting glorification of the English, without having seen an enemy nor having received or given one blow." However, when news of the approach of the English squadron was brought it was decided that the seven ships in port should go out to meet them and that the question of the evacuation of Jakatra should be



THE MOST FAMOUS OF THE
GOVERNOR-GENERALS OF NETHERLANDS
INDIA (1619-23, 1627-29.)

left until after the fight. The president before embarking sent a small craft to Amboina to convey to the Dutch there the news of the capture of the *Zwarte Leeuw* and of the siege of Jakatra, and to give orders that all the Dutch vessels should be assembled there to meet out to the English the same treatment they had given to the Dutch. Leaving Pieter van den Broecke in command on shore, the president on December 31 sailed out to meet the English. On the Dutch ships were about 520 men, including the sick from Onrust. The English had eleven ships, one of which was the *Zwarte Leeuw*, but their vessels were not very strongly manned. "We tried," says the Dutch writer of the journal, "to go before the wind as much as possible, but could not reach the English ships, so we anchored at some distance off them. As we saw they

all had the 'blood flag'* hoisted on their stern, ours' were hoisted as well. About two o'clock in the afternoon the English fleet approached us, but remained at a distance of a gunshot to the windward. They sent a boat with a trumpeter who . . . summoned our whole fleet to surrender, in the name of his Admiral. He called out loudly in proper Dutch, so that everyone could hear him, that we had done great harm to their company, kept their people prisoners and starved them, wherefore they had come specially to avenge themselves and to punish us and that if we did not surrender they would attack us, and that if we surrendered peacefully they would treat our people well and nobody would lose his wages, but be paid in full. 'And tell your General' (said the Herald) 'that he has to come on board my Admiral's ship and if he will not come tell him that he is a Jesuit,' and many more absurd things. In name of the General it was answered, 'Tell your Admiral that if he does not give back the *Zwarte Leeuw* we will avenge ourselves.' With this answer the herald returned and the fleet remained where it was." Nothing was done on either side until sunset, when a diversion was caused by the appearance of a sail on the horizon. It proved to be the *Bercherboot*, a Dutch ship which had sailed from Djambi on December 26, after a fight at that place, in which the English factor was killed. On the morning of January 1, 1617, both fleets weighed and commenced manoeuvring so as to obtain possession of the *Bercherboot*. An engagement ensued which lasted for three hours. Much damage was done on both sides, but the result was indecisive, though the *Bercherboot* was safely piloted into harbour by the Dutch fleet, and to that extent the advantage was claimed to be with them. After the engagement at night the Dutch leaders consulted together as to the future. "Although, thank God, we had gained a victory the opinions expressed," says the writer, "were so different that we could not get one unanimous resolution. Some advised we should attack the English once more at day-break. However, when the *Gouden Leeuw* (Golden Lion), which had fired most, with the *Louwe*, asked for powder and the others all complained they wanted powder; when it was considered that all powder of the whole fleet would be gone within three hours if the battle would be a fierce one, we looked at each other. It was a puzzling dilemma and we parted without a resolution being passed." The conference was renewed on the morrow, but it was brought to an abrupt end by news of the appearance of three English ships on the scene from Bantam. Having regard to this substantial reinforcement of the enemy's fleet, the want of powder on their own ships and the fact that their vessels were ill prepared for a fight, the Dutch concluded that the only course open to them was to return to Jakatra and seek shelter under the guns of their fortress. Anchor was weighed accordingly, and the Dutch ships set a course for Jakatra, followed closely by the English. "When between the islands and Jakatra the Council again assembled to consider where it would be best to cast anchor. However, as the English had now 14 ships, while at Bantam 4 others were lying, including a large vessel with 52 cannon, it was doubtful if it would be

* In the time of the Dutch Republic, on going into action, a red flag named the "bloedflag" (blood flag) was used. This custom dated back to the days (1580) of the "Geuzen," the Dutch irregular bands on land and water who fought against the Spaniards in the Netherlands. These guerrillas hoisted the red flag on their vessels in actions with the Spanish ships as a sign that they intended to fight to the bitter end and to give no quarter. The practice continued on the Dutch warships until the decline of the Republic in 1795.

advisable to anchor, and many more difficulties arose, wherefore the General advised it would be better to sail to Amboina with our ships and to assemble our power in those regions than to risk at this moment our whole position and to knock our head against the wall, as there is no fighting without powder.

. . . All these points were taken into consideration and the Council had specially before them the undesirability of risking the whole position of the United Netherlands in the East Indies for the safety of the fortress, &c., at Jaccatra, which safely cannot be maintained at this moment." Ultimately, the proposal to sail for Amboina was adopted, and the vessels immediately directed their course thither, after an intimation had been given to Van den Broecke at Jaccatra of the contemplated plans. An instruction was conveyed to this functionary to hold out as long as he could, but that if he was compelled to surrender he should rather do so to the English than to the Javanese. After they had got to sea, the Dutch leaders had doubts as to whether, after all, they were adopting the right course, and whether it would not be better if they returned rather "than to be reproached afterwards for having ignominiously left the fortress to shift for itself." However, the doubts were silenced, and on January 3 a renewed decision was reached to sail for Amboina as quickly as possible. After a somewhat tedious voyage, Amboina was reached on February 4.

We may contrast with this Dutch account of the battle that supplied by the English commander to his employers in London.* Writing in his bluff sailor-like way, Sir Thomas Dale says:—

"We began the fyght with them between tenn and eleven of the cloke the 23 day of December, and fought untill 3 of the cloke after myd-day a cruell bloodye fight, 3,000 great shott between both the fleets, many men maymed and slayen on both sydes, but they had (as we are gyven to understand) 4 tymes as many men slayen and maymed as we hade. Three of the ships is reported to be suncke by the Javas, how true yt is I know not, but I am suer they wer soundly banged. The next night we came to an ancker within shot, one fleet of the other. . . . In the morning they had the wynd, but yet began not with us, although some of our ships in turning to get the wind of them wer almost aboard of them. In the mean tyme ther fleet (which by this tyme was nine sail) cut down ther mayn sayles and away to the Eastward for Banda, we imagyning they would not have passed ther rode under ther castell at Jaccatra, and have rune away from ther people as they dyd, and so by this meanes we lost them, which troubled me very much, for if our thre ships had not com in syght that morning they had never gotten away from us, which was a great hynderance to our proceedings to the Mollocos. . . . Now having chased ther fleet thorow the bay of Jaccatra in the sight of all the Javas, to whom formerly they had mayd ther great bragges, the nyght overtaking us we ankered near Jaccatra. This nyght a jonck was fyred and cam across our fleet, and many of the ships wer much troubled to get clear of her and wer forced to way, and thus we came to an anker nearer to Jaccatra the next day in the morninge at what tyme the Black Lion had order to anker neare unto the Admyrale to unload the best of her goodes into dyvers ships. That morning about 2 of the cloke, three or four drunken roges brok open her hould

and went to steal rack apée, and as they wer drawing thereof, set yt one fyre, sum being spylt one the flower, took fyre and fyred that which was spylt and that in the cask and so fyred the ship. These roges being amased (amazed) at this excendent (accident) stole out of the hould and covered the scuttyll, as who should say they had not bin ther, and sum of them fell to breaking open the chestes. In the meantime the ship was one fyre about their eares and impossible to be qenced, and so they consumed all that welth in her, an unfortunate excendent." "But who can withstand the myghtye hand of God?" piously exclaims the writer in conclusion.

Though the English had succeeded in driving off the Dutch fleet, and by so doing had placed the garrison at Jaccatra in a position of perilous isolation, they were in considerable perplexity as to what their future action should be. The obvious plan dictated by an energetic policy was to pursue the enemy and either annihilate or disperse him. But there were several cogent reasons against the adoption of this course. In the first place political expediency suggested that the

Moluccas, but "to ayde the King of Jaccatra, in hope to supplant the Hollanders who have sought by all sinister meanes our subversion, as also to keep the Straight of Sunda, not doubting by the Grace of God but wee shall be able to weaken their forces coming in, and to maintaine this place untill some greater fleet be heere arrived out off England, which God graunt may come to pass accord to ouer longing expectation." In pursuance of this decision, the King of Jaccatra was supplied with pieces of ordnance, large and small, and twenty barrels of gunpowder, for use against the Dutch, who still held the fortress. With this substantial addition to his resources, the King of Jaccatra redoubled his efforts to overcome the resistance of the Dutch garrison, and on February 1, Van der Broecke, the Dutch commandant, surrendered, his submission being made to the English in accordance with the instructions which had been left by Coen before his departure. Some time before this, on January 10, Van der Broecke had concluded a treaty with the King of Jaccatra, under the terms of which the King was to receive six thousand reals of eight in consideration of his allowing the Dutch fort to remain and of his promising not to allow the English to rebuild their factory on a site as near the Dutch position as the previous one had been. This treaty, in ordinary circumstances, would have been of little value, as it would have been superseded by the terms of the capitulation. But, as events proved, it was an important factor in the consolidation of Dutch power in Java.

By the terms of the capitulation of February 1, the fortress and the garrison, with the munitions of war, were surrendered to the English, while the merchandise and other movable property fell to the lot of the King of Jaccatra. This arrangement soon broke down under the stress of the native desire to reap the full fruits of the victory that had been gained. On hearing of the fall of the Dutch position, the Pangeran of Bantam proceeded to Jaccatra with a force of 2,000 men, and in defiance of the conditions of capitulation caused the Dutch prisoners to be removed. Worse than this he had, it appears from a statement of grievances sent home by Dale, "had conference with the Dutch against us to thrust us out of his country . . . and hath by praos sent unto the Straights to advise the Dutch shippis out off Holland not onely off our proceedings but also to keep themselves out of our hands, otherwise wee might have taken three or fower off their shippis which would in parte have satisfied our losses." This untoward development placed the English in a position of great perplexity and some anxiety. Their calculations hitherto had been based upon the certainty of strong support not only from the native powers at Jaccatra but also from those at Bantam, and they could not hope to conduct their operations successfully without at least their sympathy. Taking counsel together, they came to the conclusion that the struggle must be abandoned, temporarily at all events. The reasoning by which they reached this decision is set forth in full in the report of the fateful consultation which figures amongst the records. "Wee are to consider," says this document, which is signed by Dale and five of the members of his council, "the force off the Fleming, wch. is three to one by sea, not including their fortes and castels by land, whither iff neede force them they may repaire, wee have nether castels nor forts to defend us, nor king nor prince to protect us, our onely strength consists in shippings, nothing by land, and iff neede force us must stand unto itt; but



A JAVANESE CHIEF IN ORDINARY DRESS.

(From "The History of Java," by Sir T. S. Raffles.)

close relations already formed with the Kings of Jaccatra and Bantam should be maintained and strengthened, and this could only be done by the fleet remaining in Javanese waters. Another consideration which restrained Dale from pursuing an active policy was the lack of provisions in his fleet, and his inability to furnish supplies to the English forts at Pulo Roon and other islands of the Moluccas. He was further influenced by news he had received from Courthope and others to the effect that a strong concentration of Dutch forces was in progress in the Moluccas. He knew that the Dutch had available a considerable force there in addition to the fleet which had recently been encountered, and he did not think that he was justified in risking what was practically the entire English strength in the East on an action, more especially as there were well-grounded reports of the early advent of a fresh Dutch squadron from home. Consequently, it was decided at a consultation held on January 6, 1618, not to proceed to the

* East Indies Original Consultations, Vol. VI., No. 767, Col. No. 609.

since our few ships are neither provided off men, nor victuals fore a defensive war, and this place not able to supply us with any off these wans, wee hould it best to quit this place, before the storme off the Flemings come, and not to hasard the Company's whole strength and State off the Indies upon more than treble odds, and get us to some place, where wee may supply our wants and stave the cominge off the other shippis which we hope and long for, and by joining with them to be the better able to deale with the Flemmings our professed enemy."

Acting upon this decision, the English shipped the bulk of their property at Jakatra and withdrew their ships to Pulo Besse, in the Straits of Sunda. It was at first proposed to fortify this place and make a stand, but having regard to the unhealthiness of the island and the difficulty of obtaining supplies, it was considered that it would be better to withdraw the fleet to the Coromandel coast. The English ships at the time were in a very bad condition and wholly unsuited to meet the exigencies of a defensive war. Furthermore, there were violent dissensions amongst the commanders which precluded the possibility of successful action against a resolute and well-equipped foe like the Dutch. This aspect of the matter is illustrated by a letter from one of Dale's associates, in which letter complaint is made of his carriage towards his associates, "he appropriating all to himself as well by land as sea, making no other use off me than as an ordinary fellow, the better to drawe his owne neck out off the collar and thrust in myne, as at Jacatra, all his words being there as here, 'I will and require,' 'this must be done,' and 'this shalbe done,' and yet in the end we must signe what he sayes." Dale was no doubt a very masterful man, but he was an able commander, and with better backing from home, and a fleet more fully equipped might have accomplished great things in the Eastern archipelago. The decision to depart to the Coromandel coast, however, was fatal to the cause for which Dale had striven. Its inevitable result was to raise the ascendancy of the Dutch to a higher point, and to make more remote the prospect of the English ever securing a footing in the islands of the Eastern seas.

Not long after Dale's squadron sailed, Coen appeared off the coast of Java with sixteen ships which he had collected in the Moluccas to re-establish Dutch authority. On arrival off Jakatra early in March, he found that the fort had been reoccupied by the Dutch garrison, whom the Pangeran of Bantam had released. Consequently, he had no difficulty in making effective the Dutch position. One of his first acts was on March 12, 1619, to christen the fort which had become once more the Dutch head-quarters, "Batavia." This designation was a little later given a wider application by its extension to the adjoining town, which, on May 30, was occupied by troops under Coen's direction. From this period may be said to commence the Dutch sovereignty in Java.

The English authorities in India took no measures to carry forward the work which Dale had so well begun. Apparently they thought that the acts of war which had been committed by him would have no sequel, and that they might send their ships to the East with impunity. At all events, in April, 1619, we find the English Council despatching from the Coromandel coast in charge of John Jourdain, one of Dale's principal associates, two ships, the *Hound* and the *Sampson*, to "new establish with both men and means the almost decayed factories" of Djambi (Sumatra), Patani (Malay Peninsula), Siam and Succadana (Borneo). The force was utterly inadequate for the discharge of a mission of the character of that upon which it was embarked, and its fate was practically sealed as soon as it entered the sphere of Dutch influence. The blow fell at Patani.



JAVANESE IN WAR DRESS.

While the ships were anchored there on July 17, 1619, three large Dutch vessels manned by 800 men, under the command of Hendrik Johnson, sailed into the harbour, and, taking up position, at once attacked the English force. After a "five glasses fight," and when eleven of the men of the *Sampson* had been killed and thirty-five wounded, Jourdain, who was on the vessel, ordered a flag of truce to be displayed with the object of parleying about peace. While the negotiations were proceeding between Thomas Hackwell, the master, and the Dutch commandant, Jourdain showed himself on board the *Sampson* before the main mast upon the gratings, and the Dutch "spying him most

treacherously and cruelly shot at him with a musket and shot him in the bodie neere the heart of which wound hee dyed within halfe-an-hour after." After Jourdain's death, the two ships were seized by the Dutch, and the crews were taken on board the Dutch admiral's ship where they were, according to statements they afterwards made, barbarously treated. Many of them died from their wounds or from exposure, and most of those who survived were turned ashore. A small number, consisting of masters and carpenters and other chief men, were kept by the Dutch to grace their triumph. A number of the prisoners were taken by the Dutch to Japan. Cocks, the English factor in Japan, describes their arrival on March 10, 1619, in these words: "and last of all came another greateshipp from Pattania, called the *Angell*, being the Admerall of 3 shippis which came together and sent off purpose to take the *Sampson* and *Hound*, two other English shippis wherein Captain Jno. Jourdain, the presedent came, cheefe comander; they Hollanders coming upon them on a sudden as they rood at ancor in the road of Pattania nott dowing any such matter, where they took both the said shippis, after the death of Captain Jourdain and others. Out of which shipp *Angell* Mr. Wm. Gourden (Gordon) and Michell Payne escaped ashore, by the assistance of Mr. Wm. Adames; otherwaies they hadd byn sent captives (as the Dutch terme it) to the Molucas. Mr. W. Gourden was master of the *Hound* and Michell Payne, carpenter of the *Sampson*. As also a Welchman named Hugh Williams escaped from them and came to the English howse the morrow after. By which 3 men as also an open letter which I received from Mr. Adam Denton from Pattania in the Dutch shipp *Angell*, we understand of the proceedings of the Hollanders against our nation." Enraged at the loss of these prisoners, the Dutch made an attack on the English factory, with the intention of seizing the runaways, but the place was so stoutly defended that they ultimately had to relinquish the enterprise.

After these proceedings of the Dutch the feelings of enmity between the representatives of the two nations in the East were aroused to the highest pitch. So deadly was the feud that according to an English letter of the period had their fleets met at sea at this juncture "there had never been such a day among Christians." Happily the calamity was averted by the arrival at Bantam on March 14, 1620, of the English ship *Bull* bringing the welcome tidings of the conclusion at home between the English and the Dutch of a compact to be known in history as the Treaty of Defence. For the present, we must leave the English and Dutch generals feasting each other at Bantam and Jakatra in commemoration of the happy event, while we recount the history of the negotiations which preceded the signing of the Treaty.

* "Purchas his Pilgrimages," Vol. I, p. 604.

† Calendar of State Papers Colonial Series, 542.

CHAPTER V.

Dissatisfaction with the Treaty of Defence—Dutch aim at a Union of the Two Companies—King James favours the Project—Great Strength of the Dutch in the East Indies—Joint Council of Defence created at Batavia—Expeditions to the Manilas—High-handed Action against a French Trader at Batavia—Dutch Hostility to the English Occupation of Pulo Roon—Courthope killed in an Action with the Dutch off the Island—Dutch seize Pulo Roon—Dutch Version of Events—Disagreements at Batavia between the English and Dutch—Commissioners meet in London to adjust Differences—Dutch Designs contemplate Complete Domination in the Eastern Archipelago—Coen's Instructions to his Successor—Conclusion of New Treaty between English and Dutch in 1623.

As has been noted in a previous page, the commissioners who drew up the Treaty of Defence commenced their sittings towards the end of December, 1618. The discussions were protracted and animated. Several times the negotiations were broken off because the English insisted on the restitution of their ships, eleven of which were in Dutch hands at this time. Another point of acute difference was the future of the fortifications. The Dutch were desirous that their rivals should bear half the charges, but emphatically declined to permit them to have any share in the management. King James, who was extremely anxious that an agreement should be reached, threw the whole weight of his influence into the scale in favour of compromise, and ultimately, after sitting for seven months, the commissioners, on June 2, 1619, signed a treaty to regulate the future relations of the two Companies.

This Treaty of Defence, as it was called, consisted of thirty-one articles, and it covered practically the whole of the associations of the two Companies from the adjustment of territorial matters to the making of provision for the disposal of the estates of defunct factors. At the outset it was declared that "henceforth there shall be a forgetting and utter extinguishment of all offences and misunderstandings" which had divided the two nations in the East Indies. Then followed a declaration that the two Companies should share jointly in the trade of the East Indies, and that they should employ upon their several accounts such stock and capital as they should think fit. Other articles provided for common action in the matter of the purchase of pepper, and gave the English Company a third share of the trade of "the Moluccas, Banda and Amboina." It was further agreed that there should be maintained a Fleet of Defence of twenty vessels, half of which were to be contributed by each Company. The vessels it was stipulated should be of from 600 to 800 tons burthen, manned by a crew of 150, and armed with thirty pieces of artillery. "For the orderly establishment and the better government of this defence" there should be established a Council of Defence, the members of which should be supplied by the two Companies in equal number. There were other provisions relating to the manner in which the Fleet of Defence should be operated and providing for a joint effort to open up the trade of China. Then followed these important articles relating to fortifications:—

Article 24.

"And forasmuch as there hath been question moved touching ye building of certaine new fortes which ye English Company deem to be necessary for the safety of their people and goodes, it is agreed that the said question shall rest in suspense for

ye period of two or three yeares to the end and after due information and joint advise taken how many fortes and in what places shall henceforth be necessary there: then the said question may be resumed and accommodated in such sort as may redound to the common and mutual contentment of each partie."

Article 25.

"Touching the fortes which shall be hereafter gotten in the Moluques or in any other partes of the Indies by the common industry and the power of both Companies, the same shall be equally possessed, holden, and mayntayned jointly with garrisons of each Company which shall be in equall number or otherwise they shall be equally divided between both Companies according to the advice of the Council of Defence in those parts."

Article 27.

"Neither Company shall henceforth prevent nor exclude the other, whether by means of fortification hereafter to be made in any part of the Indies; but all the traffic shall be free and comon as well to one as the other in their respective proportions."

One of the concluding articles provided that "none who are not free of either Company shall be admitted to trade without the assent of both."

Before the States commissioners left for Holland they dined with the King, and a great feast was given to them at Merchant Taylors' Hall, which was attended by all the leading men of the City of London. Furthermore, the King conferred the honour of Knighthood upon the three Dutch signatories of the Treaty, as a mark of his special gratification. The royal satisfaction at the conclusion of the compact was not shared by the directors of the East India Company, who lost no time in formally protesting against Article 24 of the Treaty, touching the question of fortifications. They regarded the provision "as utterly cutting off the Company from all hope and expectation of their obtaining any parts of the forts at any time hereafter, which in the end would utterly exclude the Company from the whole trade of the Indies."† Nor was the Dutch Company more enamoured of the arrangement, for it took strong exception to the stipulations relative to restitution, and regarded the financial provisions as unsatisfactory. The Treaty, in fact, bore within it the seeds of such serious future trouble, that it was destined to failure from the outset.

One of the main objects of the Dutch in joining in the negotiations for the Treaty was to effect a complete union between the two Companies. As the foregoing pages show, this was by no means a new idea. There is abundant evidence, too, that the royal support of the project to which we have referred was based on State views of some weight. In December, 1617, Carleton told Sec. Sir Thomas Lake when the King of Denmark was sending four ships to the East Indies, and the French were going upon the same adventure, that King James was likely to be moved to join the two countries, for, he adds, "if the English neither join with the French who seek us, nor with the Hollanders by whom we have long been sought, the French and Hollanders may join to our prejudice. Again, the Spaniards and Portuguese may recover their ancient possessions, against which they are only kept by the strength of the Hollanders, who it is impossible can continue the charge without assistance." According to the testimony of Ball, one of the commissioners appointed by the King in connection with the Treaty of Defence, the Dutch, in 1618, maintained twenty-two forts in the Indies, wherein they kept four thousand men in pay continually, and "near 30 sail of ships," and he was decidedly of opinion that "the trade of merchandise was not able to support any such charge." Sir Thomas Roe strongly advised the Company "never to join stock with the Dutch to profit and loss, for their garrisons' charges and losses by negligence would," he said, "engage the English Company to bear part of their follies for no profit," but, he urged, "your accord must be by a stint at those parts common to you both, and agreement to what parts you may resort without offence one to the other." "If," he argued, "they keep you out of the Moluccas by force, I would beat them from Surat to requite it."

As soon as the English and the Dutch in the East had completed their festive celebration of the peaceful termination of their feud they set themselves to give effect to the Treaty. On April 21, 1620, a Joint Council of Defence was brought into existence at Jakatra, henceforward to be known as Batavia in accordance with an edict of Coen's Government passed on March 12, 1619, as is related elsewhere. Jean Jardin was nominated by the Dutch, and three other members were appointed later. The English chose as their representatives Martin Pring, Thomas Brockendon, Augustus Spalding, and George Muschamp. One of the earliest outcomes of the establishment of the Council was a decision to equip a fleet of five English and five Dutch vessels for despatch to the Manilas "to damage our enemies as much as possible," the enemies being the Spaniards and the Portuguese, who, owing to the lapse of the armistice of 1608, had once more

* Java Records, Volume II., Part 2. India Office.

† Calendar of State Papers, East Indies, 683.

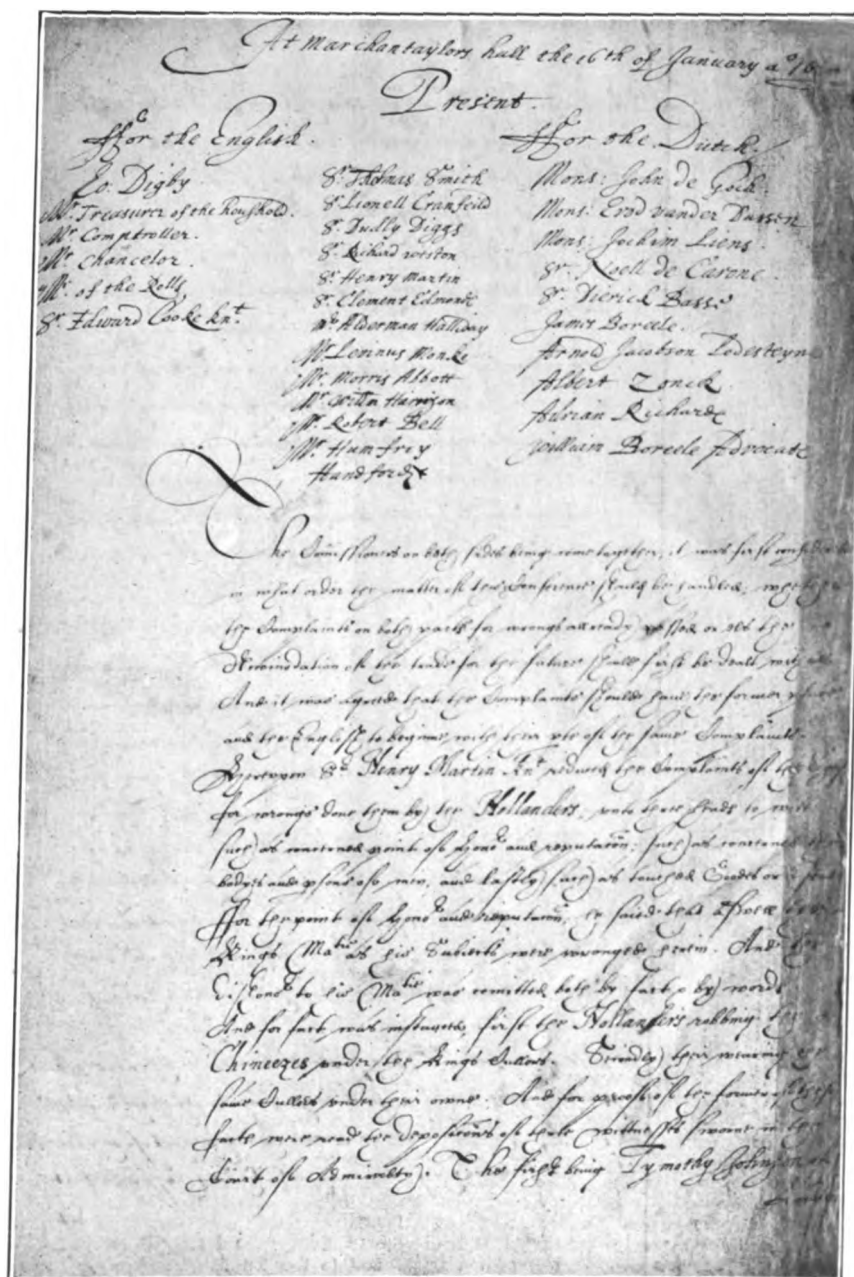
assumed the position of belligerents in the eyes of the Dutch. The expedition sailed, and did a good deal of indiscriminate damage in the China seas. But beyond securing for both Dutch and English a bad name in China and Japan, it had little political effect. In June, 1621, a second joint expedition was equipped and despatched from Java with the object of "doing injury to the common enemy and increasing the prosperity of the United Hon. Companies of England and the Netherlands." The special purpose of the enterprise was "to cut the Chinese trade quite from the Manillas and draw all trade towards us." The venture was even less successful than the first expedition. One of the Dutch Company's servants, writing from Firando in Japan on October 14, 1621, to Coen, mentions that there had been serious dissensions in the fleet, and says that at one time there was almost bloodshed between the representatives of the two nations. He opined that it would be better if the Dutch conducted this enterprise alone, "for the English dare to say openly they are not engaged to be used for warfare and (that they) do not wish to steal for other people, (that they) should like it better to fight against us than against the Spaniard." Furthermore, the English captains had no power over their people. "Everyone does what he likes to do." The crews "were very lazy and reluctant when they had to examine the enemy before Carote, but extraordinarily diligent and quick when pillaging the Chinese junks, which is tolerated by the commanders, who know very well how to get their portion from the crew."

Another letter from Firando of the same period indicates that the wholesale destruction which had been conducted by the expedition brought the Dutch into serious trouble with the Japanese authorities. While some of the Dutch fleet were engaged off the coast of Japan, near Nagasaki, in firing at some Portuguese vessels from Macao, the commander of one of the Dutch vessels received a peremptory message from the Japanese authorities ordering the Dutch to desist, and threatening that if they continued to molest shipping off the coast of Japan the whole of the Dutch staff at the factory ashore would be crucified. The writer of this communication states that the King of Macassar did not like the operations of the fleet, but had no power to prevent them. On the other hand, "Japan has the power indeed."

Besides conducting these operations against the Portuguese and the Spaniards, the Council of Defence exercised a vigilant supervision over any foreign traders of other nations who might trespass upon their preserves. An instance of the high-handed way in which they prosecuted their policy is supplied in a record relating to a French ship, named *L'Esperance*, commanded by a man named Grave. The first reference to the vessel is contained in a recorded decision of the Council dated December 17, 1620, extending to Grave the right of free trade at Bantam, on the condition that the pepper he might obtain there should be equally divided between the three nations. When M. Grave next appears on the scene six months have passed, and he is revealed in the sad light of a delinquent, for he has not only refused to deliver up to the Council their two-thirds share of the pepper, but has sent a defiant message to the effect that if they wanted the pepper they must fetch it by force.

The Council accepted this invitation apparently with alacrity, and poor M. Grave found himself in due course a prisoner, with the knowledge that he would not be granted his freedom until he had fulfilled his contract. It appeared from a subsequent statement formulated by the Council to justify their action that the *Esperance* had

great obligations to the Council of Defence, and to have acted with rank ingratitude in taking up the attitude he did. After arrest he seems to have remained recalcitrant for some time. Eventually, however, he agreed to the Council's terms, and preparations were made for unshipping the cargo. While the work was in progress the *Esperance*



FIRST PAGE OF THE RECORD OF THE PROCEEDINGS OF THE COMMISSIONERS WHO SETTLED THE TREATY OF DEFENCE.

(From Java Records at the India Office, Whitehall.)

been met with in a forlorn condition off the coast of Java by a Dutch ship, and had been brought into Batavia to recruit her crew, only four out of a total establishment of seventy-four being fit for work. Grave was thus considered to have been under

caught fire and was completely destroyed. It might be supposed that this would have ended the business. But from a resolution on record it is clear that the Council felt that they still had a grievance. They gave solemn notice to M. Grave that they protested

* MSS. Dutch Records at The Hague, First Series, Vol. IV. Translations. Letters from India.

against all the losses and interest that the United Companies had sustained in not having their claims satisfied in full, and intimated that they would hold him and his masters responsible for the balance.

While the English and the Dutch were co-operating in some sort of fashion at headquarters, events were hastening to a new crisis in the Moluccas. The trouble was the old one—the possession of Pulo Roon. Courthope, with a small force of thirty-two men, had for nearly two years maintained himself on the island, enduring want and misery in the expectation that his devotion would be rewarded by seeing the English flag firmly planted in the Moluccas. But as day succeeded day without help arriving, he began to despair of the future, and the news he received of the movements of the Dutch ships, and the attitude their commanders assumed towards him, deepened his anxiety. The Dutch undoubtedly had anything but a friendly feeling towards him, and their animosity so far from having abated since the conclusion of the Treaty of Defence had been

herbert stated that there had been fighting between the English and the Dutch before Pulo Roon, and that the whole island had brought in their arms and submitted themselves to the Hollanders. "But," he added, "I hold it fit neither to give it over, nor to yield it to the Dutch at present. It would be a disgrace to our nation both here and at home to forego a thing so slightly that was so long and so obstinately kept by Mr. Courthope." A few days later Captain Fitzherbert again wrote home (March 27) that he had set sail for Amboina on the 10th and arrived at Pulo Roon on March 14. He stated that the Dutch had taken Lantore, put all the English in o prison, and seized the English Company's goods.

Only three days before the English Admiral's arrival, the Dutch General had sent about twenty-five prahus, with five hundred men or more, to Pulo Roon with the object of surprising the island, "whereupon the blacks came to Mr. Haies and asked him whether he would defend them, and told him if he would that then they would fight it out to

of Mr. Haies and his irresolution is lost in the time of peace."*

From this frank relation illustrative of the English view of the importance of maintaining their position in the Moluccas, we may turn to a Dutch version, which puts a different complexion upon the later events. According to the writer of a pamphlet of the period, after the receipt of the Treaty the General of the Dutch Company laid before the Council of Defence a plan for the capture of Banda. The English members replied that they were willing to join in some common exploit, but that "they wanted both power and means of men and ships," and that for the moment they could do nothing. Upon this the Dutch decided to undertake the enterprise alone, and acting on that decision the Governor-General proceeded to the Castle of Nassau on the island of Neira, arriving there on February 27, 1621. In the meantime, news of the intended expedition had been brought to Amboina by an English member of the Council of Defence and, according to the Dutch account from which we are quoting, the Englishmen on Pulo Roon had aided the natives of Banda with pieces of ordnance. It was also averred that some Englishmen of Lantore had assisted them with advice and given to them the encouragement of their presence. In consequence of these actions, the Englishmen were directed to leave Lantore, but some of them disregarded the injunction and when a Dutch ship dropped anchor off a place called Laching it was assailed by a shot fired by an English gunner. In consequence of this incident the Dutch General had to change his plans, and instead of assailing the island on the south side, as he had intended to, land elsewhere. On March 8, 1621, seventeen companies of soldiers were disembarked between Comber and Oratten, but finding himself confronted with three pieces of ordnance planted there by the English, the Dutch General re-embarked his men. Afterwards, the plan was formed to assault the island from both sides—on the inner or land side with six companies, and the outer or southern side with ten companies. The plan was completely successful, and soon the island was in the possession of the Dutch. Subsequently, the chiefs of the island, as well as those of Rosengyn and Pulo Roon, entered into an arrangement "to hold their countries and lands of the Lords the Generall States of the United Netherland Provinces, promising to do whatsoever they should be commanded, and acknowledge the said Lords the Generall States for their sovereigns, notwithstanding their former oaths taken unto any others."

Apart from affairs in the Moluccas, there was much to disturb the relations of the two partners to the Treaty of Defence. Acute differences arose over the adjustment of the damages sustained by both parties in the late warfare at Jakatra. There were also squabbles over matters of smaller moment, but which as they touched personal interests were quite as keenly contested. For example, we read of objections on the part of the English to pay their share of the cost of the paper hangings in the Governor's house and the merchants' rooms, and the wages of the servants. There was also a complaint from them that the table of the Governor was too



VIEW IN THE ISLAND OF BOURO, (MOLUCCAS.)

(From an Old Engraving published in London in 1800.)

increased by a suspicion, probably well founded, that he had been intriguing with the natives of the adjacent islands against them. Matters were at this stage in November, 1620, when Courthope embarked at Pulo Roon on a small vessel he had there, with the object of obtaining supplies from an adjacent island. In the course of his voyage he was met by a large Dutch ship, which he fought for some hours. Finding that his vessel must strike, he plunged into the sea to avoid falling into the hands of the enemy, and thus ended the life of one of the bravest officers and most faithful servants the English East India Company ever employed.* News of the occurrence did not reach the English until March, 1621, when Captain Fitzherbert, the admiral of the English Company's fleet, visited the Moluccas. Writing home to the directors "from aboard the *Royal Exchange*," Fitz-

the last man. But Mr. Haies answered that he was not able, nor could not. The blacks seeing the 'eminent' danger and how they were forsaken by the English, for whose sake they had stood out with the Dutch so long, began most pitifully to lament that they must become subject to the Dutch." So the Dutch "landed unopposed," demanded of the natives "how they durst deliver their island to the English," and made them give up all their arms. The Dutch then compelled "this miserable people" to destroy all the walls which "ranged the whole island" and make them even with the ground, "not so much as sparing the monuments of the dead. In fine, they were compelled to give the island to the Dutch by presenting them with a nutmeg tree in a basin, as the custom of these parts is in like cases." "Thus," concludes Fitzherbert, "was Puoloroon lost, which in Mr. Courthope's time, by his good resolution, with a few men, maintained itself, to their disgrace, and now by the fearfulness

* Calendar of State Papers, East Indies.

† The Hollanders' declaration of the affairs of the East Indies, or a true relation of that which passed in the islands of Banda in the East Indies in the year of our Lord God 1621 and before. Faithfully translated according to the Dutch copie. Printed at Amsterdam, 1622.

• Universal History, Vol. X., p. 17.

well provided. Further they raised a protest against the Dutch factors taking their dinner with the Governor, and grumbled about having to pay excise on the arrack they consumed and dues on the fish they caught themselves. A graver cause of dissension was the enforcement by the Dutch upon the English of Dutch jurisdiction. The English president in the early weeks of 1621 was cited by the bailiff before the local Dutch Court for a refusal to pay the port dues on some articles, probably including the arrack and the fish previously mentioned. That he appeared is evident from the sequel which is thus set out in the Dutch records:—

"Sheriffs having heard both parties order the President of the English to pay to the Collector-General what is due to the country within eight days; moreover (they) condemn the said President to a fine of three hundred guilders for reason of his opposition and unwillingness to obey the placards and ordinances of this country.

"(Signed) H. PIETERSEN PRINS, Secretary."

It is obvious from this that the Dutch regarded their position not as one of ordinary partnership but of sovereignty. They held, in fact, that the treaty concluded by Van den Broecke on January 19, 1618, together with their full occupation of the town gave them a special title and that the English only held their factory at their will. The claim thus made would scarcely have been pushed to its logical conclusion if the English had been in a better position to resist it. But unfortunately for English trade the conditions were altogether unfavourable for the prosecution of an enterprising policy in the Far East at this period. The finances of the London Company were at a low ebb, and there was little disposition to adventure money on a business so speculative as that of the Eastern trade. Moreover, the Company had its hands full with its operations in India where a firm foothold had been gained and the foundations laid of a highly lucrative commercial connection. All these circumstances tended to reduce the English activity and to give force to the Dutch pretensions which embraced the establishment of a capital on the soil of which they would be absolute masters and from which they would dominate the Eastern seas.

In view of the facts already cited, it is not remarkable that although the Treaty of Defence was to remain in force for twenty years, twenty months had not elapsed before both the English and Dutch were compelled to open fresh negotiations. Owing to complaints loud and deep sent home by the members of the English Council at Batavia, various representations were made from England to The Hague, but without eliciting any definite response. At length King James's choleric temper was aroused, and he declined to see the Dutch Ambassador because, as His Majesty said, the States General jested with him. This action hastened matters, and on November 28, 1621, ambassadors from the States arrived in London charged with the duty of examining into the grievances in conjunction with a body of members of the Privy Council specially appointed for the purpose.

The chief matters in dispute are set forth in a letter from the president and council at the English factory at Batavia. The Dutch, contrary to the provisions of the Treaty, required the English to furnish a ship to remain in the Moluccas for a whole year. They also demanded that the English should have a ship before Bantam, that they should pay part of the charges

incurred in keeping soldiers there and "setting out vessels to and fro upon that coast," which they urged "grew so high that they could forbear this demand no longer, and that unless it were complied with they were determined to thrust us out of all trade which they, as themselves, insisted, had just cause for doing, for they bore all the charges."

The English grievances were beyond doubt substantial, but there was another side of the question, and an important one. In the Treaty the English had contracted to maintain ten ships of defence, and they had not done so. They also had in other ways failed to assume a just share of the obligations. At this time the Dutch expenses must have been exceptionally heavy. Costly establishments were maintained at many points, a great armed land force, largely composed of Europeans, was kept in a high state of efficiency, and a rough but effective diplomacy, which had wide ramifications, was organised. All this meant lavish expenditure. It is no wonder, therefore, that the

Coen says, "Do justice and maintain carefully the sovereignty and highest jurisdiction in Batavia, the Moluccas, Banda, Amboyna, Pulicat, Selor (Solor) and other places appertaining to the States, without sharing or suffering the English or any other to encroach thereupon. Trust them not any more than open enemies, and give no way to the shortening of the sovereignty and common good, nor of the respect, reputation and countenance of the same, not weighing too scrupulously what may fall out." Coen thus was for pursuing a policy of total exclusion, and in this respect he went in advance of his predecessors, Governors Speult and Sonckce, who he declared were "too scrupulous."

The questions in dispute submitted to the conference finally narrowed themselves down to these four points connected with the restitution of ships and the reglement of trade: 1, the lessening of the number of the ships of defence; 2, jurisdiction in the East Indies; 3, the choice of an indifferent place of residence for the Council of Defence



GOVERNOR-GENERAL, 1623-1627.

Dutch were disposed to take umbrage at what they regarded as the unreasonable demands of the English to participate in the trade without making their stipulated contribution to the common stock. At the same time it is equally clear, from an impartial examination of the facts as disclosed in the records, that the Dutch aim was not to secure the modified equality of interest allowed for in the Treaty, but to establish a predominance of a thoroughgoing kind. General Coen, in the instructions* left to General Carpentier, his successor, in January, 1623, observed that an agreement must be made with the English to buy up pepper, and, he said, "in regard our masters have been at excessive charges above the English, and better provided of money and goods, it will be needful to stand hard upon it to obtain prerogative above the English and all others by some advantage in the buying in of pepper and other China wares." Again, in another part of the instructions,

there; and, 4, the building of forts. The attitude of the Dutch commissioners strengthens the opinion that the Dutch East India Company at this period was making a bold bid for absolute domination in Eastern seas. Great complaint was made of their "wayward proceedings," and a reference in a letter from a high English official of the period (Secretary Calvert) states that the Dutch had "with much art, made many offers, varied and gilded over, and because we will not swallow the gudgeon they grow angry." The King made an attempt to appease the differences, and the negotiations having been resumed, a fresh treaty was finally signed in January, 1623. The States commissioners took leave of the King on January 24. Six days later they were solemnly feasted at Merchant Taylors' Hall, and the next day they gave a great supper at their own lodgings to the merchants. The settlement excited little enthusiasm in

* It is only fair to point out that this quotation is from a translation, and that in Dutch "scrupulous" may be used in the sense of hesitating or timid.

* Calendar of State Papers, Colonial Series, 243.

England. Before the terms of the compact were known, John Chamberlain, the well-known London historian, wrote that he thought it must be a hard knot that could not have been tied in less than thirteen or fourteen months, and the Secretary of State himself told a friend that "we had at last

made an end and parted good friends, though with much loss and disadvantage to the English Company as was conceived." * It is beyond question that King James's feelings

* Calendar of State Papers, East India Series, Nos. 233 and 236.

in the matter of this and the previous treaty with the Dutch, which, as was widely thought at the time in England, resulted to the disadvantage of the English East India Company, were influenced by the struggle then proceeding against Spanish dominion in the Netherlands.

CHAPTER VI.

"The Massacre of Amboina"—Position of the English in the Moluccas before the Tragedy—Gabriel Tower-son's Antecedents—Van Speult's Report on the Trial and Condemnation of Towerson and his Colleagues—English Account of the Episode in "A True Relation"—English President at Batavia demands Reparation for the Execution of Towerson and his Fellows—Carpentier's Criticisms of Van Speult.

As is apparent from the foregoing relation of events following upon the promulgation of the Treaty of Defence, bad blood had once more accumulated, and in an alarming degree, between the representatives of the two races. The Treaty had really settled nothing. The trade rivalries were too keen to be set aside by negotiations in London, even if there had been a desire to let bygones

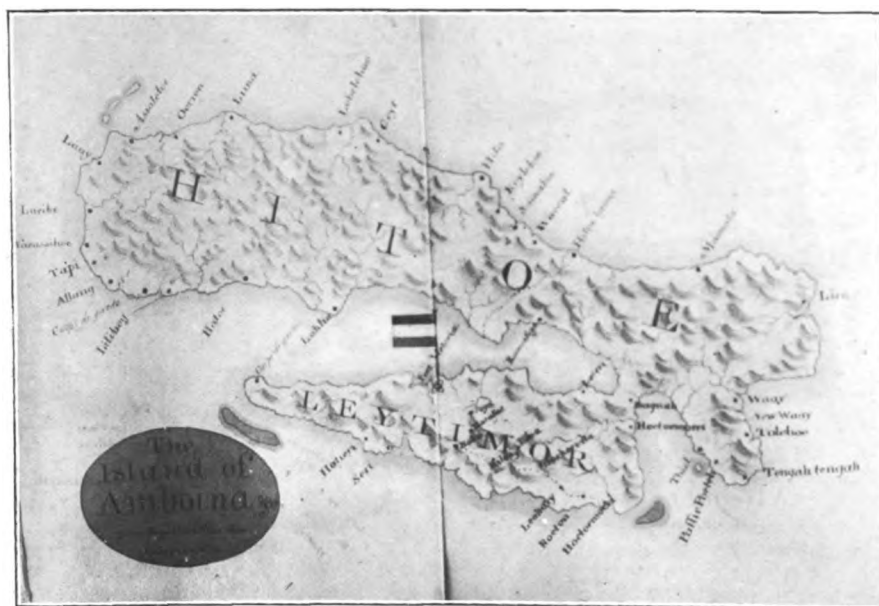
be bygones, and of this there is little trace in the records on either side. On the contrary, it is plain from many references that there was bitter disappointment at the conclusion of the compact. Coen and his associates disliked it because it circumscribed their ambitions, and the English factors resented the position of practical inferiority into which they were thrust by having to join hands with the Dutch without means equal to their own for the assertion of exclusively English rights. So the parties gradually dropped back into their old position of mutual antagonism. At this juncture, an event occurred which was to intensify the feud which raged in the East between the repre-

sentatives of the two countries and to embitter the relations between England and Holland for generations. In the early months of 1623, the English had several small establishments scattered about the Moluccas. The chief factory was at Amboina in the vicinity of the principal Dutch fort, and there were branches at Hitoe and Larica upon the same island, while two additional posts were placed at

which the president despondently said must be his "only refuge in this miserable time of penury." * On January 21, 1623, a letter sent to Gabriel Towerson, the chief of the English factory at Amboina, actually announced that a policy of withdrawal had been decided on. The president wrote that the Dutch having been informed of the English Council's intention had acquiesced in it, and he forwarded detailed instructions as to the manner in which the withdrawal should be conducted. Towerson and his associates, having settled their affairs, were to take passage on a Dutch ship with the exception of two of their number, who were to be left behind in charge of the Company's property. The "remains" of the factory (goods, furniture, &c.) were to be handed over to the Dutch at a valuation. Similar instructions were sent to Welden, who was in charge of the establishment at Banda, and to Gunning, who was factor at a place called Malaylo, on the island of Ternate. These facts make it clear that the fortunes of the Company in the Moluccas were at the time in an almost desperate condition.

From this brief general survey of the conditions obtaining at the commencement of 1623 we may turn to examine the position in Amboina with which our narrative is particularly concerned. Towerson, who has been mentioned as the head of the English factory, was an experienced servant of the English Company. A son of William Towerson, a well-known London merchant identified with the Levant trade, he first went out to the East with Middleton on the occasion of his second voyage, in 1604. Before proceeding to Amboina he had served the Company in India, and it is to be gathered from the records that he left behind him at Agra an Armenian wife. He seems to have been a somewhat loose-living Englishman of a type not uncommon in the East India Company's service at that time, as their records abundantly show. After his arrival at Amboina, in the middle of 1622, he appears to have maintained good relations with the Dutch. There is evidence of a certain amount of social intercourse and we even find a proposal emanating from Towerson that a present should be made to the Dutch Governor, Van Speult, for his good offices in the purchase of a house required for one of the Company's factors. So far, indeed, did Towerson's complaisance go that the president of the English Council at Batavia deemed it necessary in a letter dated December 17,

* Java Records, Vol. III, Part I.



(Reproduced from the Java Records at the India Office, Whitehall.)

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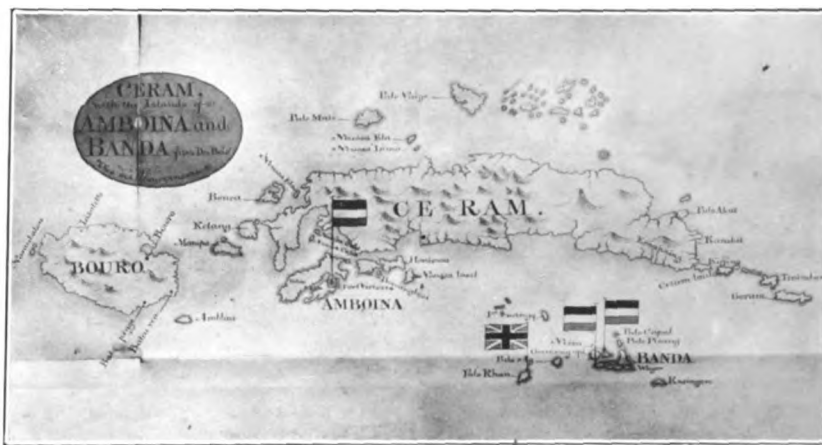
1622, to warn Towerson to beware of Van Speult's "dissembled friendship," for, said the writer, "he is a subtle man."^{*} At the same time, there are other proofs that there was considerable friction at the period between other servants of the Company. This house, for the purchase of which Towerson was desirous of making a present to Van Speult, was bought because the English factors found it impossible to live, as apparently they did in the first instance, at the houses of the Dutch. In a communication of August 18, 1622, we find reference made to the unsatisfactory character of the system of sharing houses with the Dutch. It was pointed out by the writer that not only was the practice very expensive but that it was otherwise objectionable, inasmuch as the English were used by the Dutch "more like slaves than friends." About the same period a complaint was sent from Banda that contrary to the Treaty spice was clandestinely shipped by the Dutch. The conduct of the Dutch, in fact, was "farr worse than ever itt hath bin before." On the other side, the Dutch president complained to the English Council at Batavia of the attitude of the English in Ternate, averring that they endeavoured to incite the soldiers and natives to insurrection against the Dutch. One of the English factors there in a communication had said that he acknowledged no subjection to the Dutch and that he intended to proceed with the building of a house upon which he was engaged without reference to them. This remark excited misgiving in the minds of the English Council, and they expressed the fear that there was too much truth in the charge "which being contrary to the Company's interest and order they enjoin that such abuses be not committed."

From all that has been related it may be gathered that though there was a good deal of friction between the representatives of the two Companies the relations between the chiefs at the commencement of 1623 were friendly.

known in England as "the Massacre of Amboyna," an event which was to stir English feeling to its depths and leave its sinister influence on Dutch and English relations for many a long day. The story of this dark episode in the history of the Moluccas is best

Batavia during the period. The story which Van Speult told his superiors was this: -

"The 23 February being the same day on which once the Castle of Amboyna was conquered by us, we discovered through God's wonderful directing, that the English



(Reproduced from the Java Records at the India Office, Whitehall.)

elucidated by citations from the voluminous original records^{*} relating to the subject. The first document of importance is the report relating to the affair drafted by Herman van Speult, the Governor, and by him forwarded to General Carpentier, who had succeeded Coen as Governor-General at Batavia a short time previously. This report is dated June 5, or three months after the occurrences to which it refers. The fact that there should have been this long interval before Van Speult sent an account of his proceedings to head-

had conspired with the Japanese soldiers and the Marinho of our slaves to render themselves masters of the Castle, which came to light in this way:

"On 22d February, while we were saying our prayers, one of the Japanese soldiers approached one of the most inexperienced soldiers on guard, and asked him how many soldiers were in the Castle, and how often the guards were relieved, which he had done also the day before. Moreover, he walked round the ramparts thus passing on the top through 'the cortuguarde,' which, as he was only a common (private) soldier was not allowed to him. When this was made known to me by the officer, we ordered the said Japanese to be arrested, and I asked him in the presence of the Council, for what reason he, now already two or three times when prayers were being said, had asked the youngest and most inexperienced soldier how many soldiers were in the Castle, and how often the guards were relieved. I asked, moreover, why he had walked round the ramparts at night time, although he was not qualified to do it. (In reply, he said) he thought he might excuse himself, for he had asked the questions he did without any malicious intentions. Wherewith we could not be satisfied, because we had already been displeased with the familiarity between the Japanese and the English, and the English had also said something. Therefore, the Council and the fiscal resolved to examine him sharper, which he endured pretty long. However, he confessed afterwards that they, i.e., the Japanese, had resolved to make themselves masters of the Castle; whereupon, the question was put to him, who were their accomplices, as they were not powerful enough to perform such a difficult task by themselves? and as he was threatened to be tortured again, he confessed that they would have done it with the assistance of the English, who had asked them to do it through a certain Japanese, Cevic Michich, who had served first the English Company, and was at present in our service. I was extremely surprised when I heard of this conspiracy."

"Therefore, I had the said Japanese locked



AMBOINA.—THE ANCHORAGE.

(From an Old Drawing preserved at the State Records Office, The Hague.)

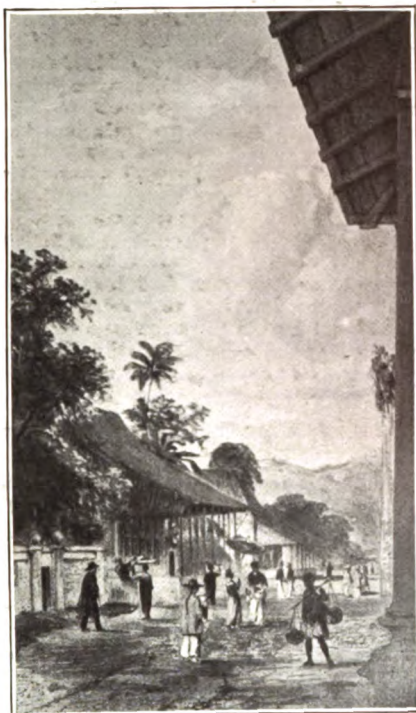
The circumstance makes more remarkable and inexplicable what followed. Before little more than two months had elapsed there occurred that great tragedy to be popularly

quarters is curious, but the delay may have been due to the absence of any direct means of communication between Amboyna and

^{*} Chiefly comprised in MSS. Dutch Records at The Hague, First Series, Vol. VI.

^{*} Java Records, Vol. III, Part 1.

up in a room, meanwhile doubling the guards everywhere. Further, I had the drum beaten that all military persons might come in, when the Japanese also entered the fortress. The soldiers remained armed until the Japanese one after the other being brought before the



A STREET IN AMBOINA.

(From Terwogt's "Het Land van Jan Pieterszoon Coen").

Council had their arms removed and were bound and locked up—even twelve in number. At the same time I ordered that nobody should leave the Castle, that the English might not consider something else in their mind full of remorse. At the same time we considered the examination of the Japanese, six or seven, all of whom confessed the same things the first one had confessed, at least substantially. And whereas we then had an English prisoner, called Abel Preys (Price), being sentenced for other reasons, so it was resolved to examine him; for this action might not be delayed at all as it could have such dangerous consequences, the more as we did not fully know how many more followers they might have. He, after little or no torture, instantly confessed, saying that on New Year's Day (their style) Captain Towerson had called them together, viz., the English merchants and other officers, and first had had them take their oath of secrecy and faithfulness on their Bible. After this he pointed out to them that their nation was greatly troubled by us and treated unjustly and was very little respected; for which he thought to revenge himself. If they would help him and assist him faithfully, he knew how to render himself master of the Castle, to which some of them made objections, saying their power was too small. On which the said Captain Towerson replied that he had already persuaded the Japanese and others and they were willing to assist him. He would not (he said) have want of people, for all of them were willing. Moreover, the said Preys confessed he had been used voluntarily to persuade the Japanese and

others, and that the Japanese to the number of twelve at the time the plot would have been acted upon, would first have murdered the guard and the Governor if he was there; and then Captain Towerson with the merchants and all their people (whom he would have ordered from the factory for that purpose) would have come to the rescue; but that the exact date had not yet been fixed; that this remained to be fixed by the said Captain Towerson. They also resolved that all Dutchmen who would not agree with them should be murdered. The money and merchandise of the Company they would have divided amongst each other.

"When we had heard this we saw that the affair could not be delayed. Therefore, we resolved to send instantly for Captain Towerson and the English and to secure their persons, that they should not cross to some place or other on Loehoe and there conspire. Those entered shortly afterwards, for we had placed guards near them secretly. We also instantly issued orders to make the merchants of Cambelle, Loehoe, Hitoe, and Laribe prisoners before they could hear of it, first having made an inventory of all their property that the English Company should not suffer any loss by it.

"Proceeding with the examination of the English we found that principally they agreed with each other. Captain Towerson and all the others confessed, except when he was asked who had ordered him to make this plan. (In reply) He said he had not been ordered by anybody but (had) only (planned it) for the sake of honour and profit and that if he had succeeded he then would have advised the success to his superiors, and if they had not been willing to accept it, he would have kept it for himself and would have come to an agreement with the inhabitants as you can see from the enclosed authenticated copy of the legal proceedings to which we refer. At that time I asked the said Captain Towerson whether this would have been the recompense for all the honour and friendship he had enjoyed, on which he replied, sighing, 'If this could be done again it would not be done.' I asked him if he remembered that about two months ago I had personally asked him and advised him I did not like to see him so familiar with some of our soldiers, slaves and others, that all distrust might be avoided, and at that time that he would profit only little by the friendship of such persons; and that he said he would leave it if I did not like it.

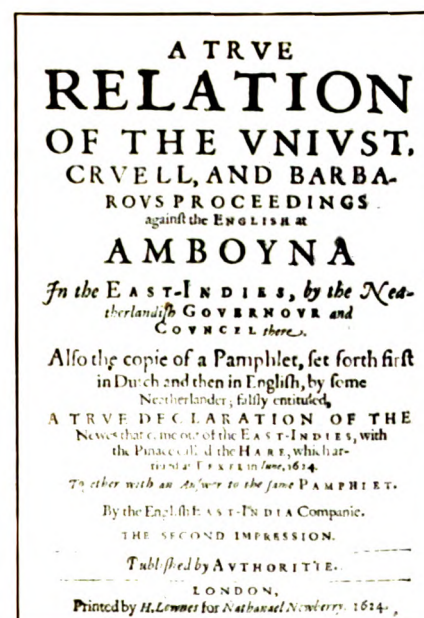
"And whereas the Council was of opinion that the said conspirators were guilty of crime *laesis majestatis*, this affair being of such nature and consequence that if the benevolent God had not protected us from their sanguinary hand this would have been cause of the Company's total ruin and decay, or at least would have been restored with great difficulties and expenses. Although we were convinced the said Captain Towerson had more followers among our subjects we were afraid of stirring up that affair on account of the present relations of those with Loehoe, and we connived at it in order to prevent more alteration. However, although I had liked to defer this question on account of its importance and other considerations this was not agreed to by the Council, who alleged that the Company's condition was not secured by a chance, and, moreover, that his affair should not be deferred or delayed, but that punishment should follow at the place where the crime was committed. So they were condemned by the Council, viz., Captain Towerson and 9 other Englishmen, 3 of them being

factors and other officers, to be decapitated, and the said Towerson's head to be put upon a post, their private property being confiscated, which was so little that it was given mostly to the rest of the English who were alive. It seems that poverty and their inborn arrogance have been *causa movens* for undertaking such an affair of importance. Also (was condemned) our marinho of the slaves, the heads of three of them, being those of principal instigators, being put on posts.

"In consequence thereof they were executed on March 9th, publicly, on the Square before the Castle.

"May God Almighty forgive them their crime, have mercy upon their souls and protect us from such perfidious conspiracies and such difficult acts, which will not be explained in the right way by many who are ignorant and jealous."

This report of Van Speult's is supplemented by a fuller account in which some interesting details are given as to the hearing of the conspiracy charges. The writer states that when Towerson was sent for he went at once to the Castle. "It seemed he did not know anything of it (the conspiracy), except that he was very much surprised and nervous." After a preliminary questioning Towerson went back to his own house, and was put under restraint there instead of being confined in the Dutch factory, but he was only allowed to return on the condition that he should first call all his people within the castle. As soon as he had left, it was resolved to examine all Englishmen, one after another. This was done, "and these have confessed, some without any, others after some torture." Before sentence was passed, "prayers was said to the Lord that he might govern their (the Council's) hearts in this their gloomy consultation, and



REPRODUCTION OF THE COVER OF THE FAMOUS PAMPHLET.

that he might inspire them only with equity and justice."

It being deemed advisable that the lives of two of the merchants should be spared to take charge of the English Company's property, it was decided that John Beomont,

English merchant at the factory of Lobo, should be one of them, and that three of the condemned prisoners—Collins, Thomson, and Coulson should draw lots "who of these three shall enjoy similar favour, their goods being confiscated, nevertheless." Four others were absolved because "they had not any or at least full knowledge of the said crime."

Coulson, Thomson, and Collins were "brought together and the lots being offered to them, everyone having said his prayers shortly," the lots were drawn, with the result that Collins proved to be the fortunate individual.

So far we have the Dutch official account of the occurrences. From this we may turn to the narrative* subsequently compiled by the English East India Company with a view to arousing public interest and support for their claim for redress. This celebrated compilation is an assertion of the complete innocence of the victims of the crime attributed to them, and an indignant call for justice against those who had committed what was stigmatised as a cruel murder. The pamphlet ridiculed the notion of the conspiracy, and asserted emphatically that the so-called confessions were statements put into the mouths of the victims and by them adopted under stress of torture. Emphasis was laid by the writer upon the extreme weakness of the English and the great strength of the Dutch. The English establishments were mere trading factories, quite undefended, and occupied only by the Company's mercantile employes. The Dutch position, on the other hand, was very strong, "having four points or bulwarks with their curtains, and upon each of these points six great peeces of ordnance mounted, most of them of brasse. The one side of the Castle is washed by the sea, and the other is divided from the land with a ditch of four or five fathom broad, very deep, and ever filled with the sea. The garrison of this castle

these there is always a matter of three or four hundred Mardikers (for so they call the free natives) in the town ready to serve the Castle at an hour's warning. There be also in the Road (for the most part) diverse

A lighted candle was brought and the flame from this was applied under the armpits and other parts of the body of the prisoner. The horrible agony caused by this process was not to be resisted by the most deter-



FACSIMILE OF THE INSCRIPTION ON THE PSALM BOOK WRITTEN BY SAMUEL COULSON, ONE OF THE PRISONERS OF AMBOINA.

(Reproduced from the Original at the State Records Office, The Hague.)



FRONTISPIECE OF THE FAMOUS PAMPHLET, "A TRUE RELATION."

consisteth of about 200 Dutch soldiers and a company of free burghers. Besides

* "A true relation of the unjust, cruel, and barbarous proceedings against the English at Amboyna in the East Indies by the Netherlandish Governor and Council there." Published by authority. London, 1624.

good ships of the Hollanders as well for the guard of the place by sea, as for the occasions of traffick." The capture of such a stronghold by a handful of practically unarmed Englishmen it was argued was a monstrously impossible feat, and it was strenuously insisted that the conspiracy could have had no existence outside the brains of Van Speult and his Council. The writer, after this exordium, proceeds to give a "true relation" of the facts as they were gathered from the lips of survivors and other sources. He states that during the examination of the Japanese, which continued three or four days, the English factors went to and from the Castle, saw the prisoners, heard of their tortures and of the crime laid to their charge, but "suspected not that this matter did any whit concern themselves." Abel Price, who was the first member of the English factory to be examined, it was explained, was a prisoner in the Castle "for offering in his drunkenness to set a Dutchman's house on fire." His testimony was extracted by torture, as was that of all the other prisoners. A lurid picture is drawn of the horrors of the torture chamber. Apparently there were two kinds of torture applied. First, a prisoner was tied with arms and legs extended on a wooden frame, and a cloth was bound round his head. Then water was poured slowly from above on to the cloth in such manner that the victim was compelled to swallow large quantities of the liquid. The process, long continued, produced distension of the body, and gave exquisite pain. As a rule, the victim was brought to a proper frame of mind after a short application of the water. But if he should remain recalcitrant, fire was called in to aid the examiner.

mined victim. In the case of the Amboina prisoners, they one and all confessed to complicity in the plot. A moving description is drawn in the pamphlet of their condition after the torturing to which they were subjected. The most interesting portion of the statement relates to the strong asseverations of innocence made by the prisoners. After condemnation, Towerson is said to have written much, "but all was suppressed save only a bill of debt which one, Th. Johnson, a free Burgher, got of him by favour of his helpers for acknowledgment that the English Company owed him a certain summe of money. In the end of this bill hee writ these words: 'Firmed by the firme of mee, Gabriel Towerson, now appointed to die guiltlesse of anything that can be justly laid to my charge. God forgive them their guilt and receive me to his mercy. Amen.'

"William Griggs (who had before accused Captain Towerson) writ these words following in his table book:

"We, whose names are here specified, John Beaumont, merchant of Lobo, William Griggs, merchant of Larica, Abel Price, Chirurgion of Amboyna, Robert Browne, tailor, which doe heer lie prisoners in the ship *Rottterdam*, being apprehended for conspiracie, for blowing up the Castle of Amboyna, we being judged to death this first of March, Anno 1622 (1621), which wee through torment was constrained to speake that which we never meant, nor once imagined; the which wee take upon our deaths (curses) and salvation, they tortured us with that extreme torment of fire and water, that flesh and blood could not endure; and this wee take upon our deaths, they that have put us to death guiltlesse

of our accusation: so, therefore, we desire they that shall understand this, that our employers may understand these wrongs, and that yourselves would have a care to look to yourselves, for their intent was to have brought you in also: they asked concerning you; which if they had tortured us we must have confessed you also. And so farewell. Written in the dark."

"This table book was afterwards delivered to M. Welden aforementioned by one that served the Dutch."

Samuel Coulson, another who accused Towerson, also wrote on the waste leaves of a book wherein were bound together the Common Prayers, the Psalms, and the Catechisme

In one page thus:

"March 5, Stilo novo, being Sunday, aboard the *Rotterdam* lying in irons:

"Understand that I, Samuel Coulson, late factor of Hitto, was apprehended for suspicion of conspiracy: and for anything I know must die for it: wherefore having no better meanes to make my innocency knowne, have

protestation of innocence to the declaration made in this book, for at the Record Office at The Hague is preserved a Scotch Psalm Book and Catechism, with this inscription upon one of the pages:

"I was borne in Newcastle-upon-Tyne, where I desire this booke maye come, that my friends maye knowe my innocencie.—Sa. Coulson."

On the flyleaf are these words in the handwriting of some other person:

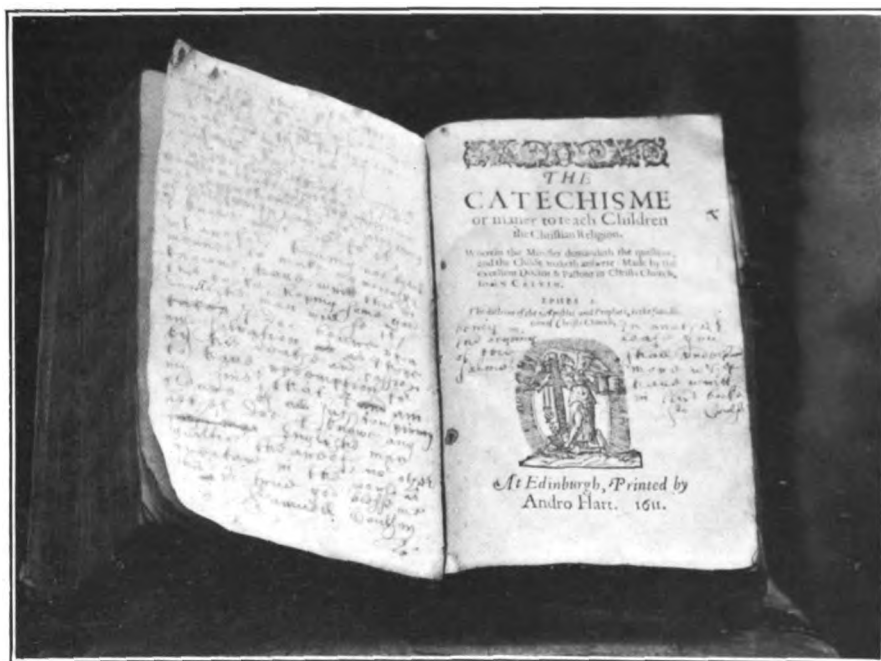
"This book bought by Mr. Wetherall, marchant in Cambella, for p.s., sent heather to G. T. (i.e., Gabriel Towerson), for the house's use."

On February 26, (old style), the prisoners were all brought into the great hall of the Castle, (except Captain Towerson and Emanuel Thomson), to be prepared for death by the ministers. "The Japons, now all in generall, as some of them had done before in particular, cried out to the English, saying, 'O you Englishmen, where did wee ever in our lives eat with you, talk with you, or (to our remembrance) see you.' The English

simulation in this case. But tell us, it we suffer guiltlesse being otherwise also true believers in Christ Jesus, what shall be our reward.' The Preacher answered, 'By how much the cleerer you are, so much the more glorious shall bee your resurrection.' With that word Coulson started up, embraced the Preacher and gave him his purse, with such money as hee had in it, saying: 'Domine, God bless you: Tell the Governor I freely forgive him; and I entreat you to exhort him to repent him of this bloody tragedy, wrought upon us poor innocent soules.' Here all the rest of the English signified their consent to this speech. Then spake John Fardo to the rest in presence of the Ministers, as followeth: 'My countrymen and brethren that are heere with mee condemned to dye, I charge you all, as you will answer it at God's judgement seat, if any of you bee guilty of this matter, whereof we are condemned, discharge your consciences and confesse the truth for satisfaction of the world.' Hereupon Samuel Coulson spake with a loud voice, saying: 'According to my innocency in this treason so Lord pardon all my sinnes, and if I be guiltie thereof more or lesse, let me never be partaker of Thy heavenly joyes.' At which words everyone of the rest cryed out, 'Amen for me, Amen for me, good Lord.' This done each of them knowing whom he had accused, went one to another begging forgiveness for their false accusation, being rought from them by the paines or feare of torture. And they all freely forgave one another: for none had beene so falsely accused, but he himself had accused another as falsely. . . . After this they spent the rest of the dolefull night in prayer, singing of Psalms and comforting one another; though the Dutch that guarded them offered them wine, bidding them drink *lushick* and drive away their sorrow, according to the custom of their owne nation in the like case, but contrary to the nature of the English."

On the day of execution, all being in readiness, "the condemned were brought forth of the Hall, along by the chamber where the quit and pardoned were, who stood in the dore to give and take the farewell of their countrymen now going to execution. Staying a little while for this purpose, they prayed and charged those that were saved to bear witnesse to their friends in England of their innocency and that they died not traitors, but so many innocents merely murdered by the Hollanders, whom they prayed God to forgive their blood thirstinesse, and to have mercy upon their owne soules. Being brought into the yard their sentence was then read unto them from a gallery, and then they were thence carried into the place of execution together with nine Japons and a Portugall; not the ordinary and short way, but round about in a long procession through the towne, the way guarded with five companies of souldiers, Dutch and Amboyners, and thronged with the natives of the island, that (upon the summons given the day before by the sound of the drum) flocked together to behold this triumph of the Dutch over the English. Samuel Coulson had conceived a prayer in writing, in the end whereof he protested his innocencie: which prayer hee read to his fellows the night before, and now also at the place of execution devoutly pronounced the same; then threw away the paper, which the Governour caused to bee brought unto him, and kept it. Emanuel Tomson told the rest he did not doubt but God would show some signe of their

• With joy.



FACSIMILE OF THE INSCRIPTION ON THE PSALM BOOK WRITTEN BY SAMUEL COULSON, ONE OF THE PRISONERS OF AMBOINA.

(Reproduced from the Original at the State Records Office, The Hague.)

writ in this book, hoping some good Englishman will see it. I doe hereupon my salvation, as I hope by His death and passion to have redemption for my sinnes, that I am cleere of all such conspiracy; neither do I know any Englishman guilty thereof, nor other creature in the world. As this is true: God blesse me.—Samuel Coulson."

On the other side upon the first page of the Catechism, Coulson wrote:

"In another leafe you shall understand more which I have written in this booke."

This had reference to a statement at the beginning of the Psalms, relating at some length the circumstances of the arrest and trial of the Englishmen, and concluding as follows:

"As I meane and hope to have pardon for my sinnes, I know no more than the child unborne of this business."

Apparently, Coulson did not confine his

answered. 'Why then have you accused us.' The poore men, perceiving they were made believe each had accused others before they had so done, indeed, showed them their tortured bodies and said, 'If a stone were thus burnt, would it not change his nature? How much more we that are flesh and blood!'"

Afterwards "came the Dutch ministers who telling them how short a time they had to live admonished and exhorted them to make their true confessions; for it was a dangerous and desperate thing to dissemble at such a time. The English still professed their innocency and prayed the Ministers that they might all receive the sacrament, as a seal of the forgiveness of their sinnes; and withall thereby to confirme their last profession of their innocencie. But this would by no meanes be granted. Whereupon Samuel Coulson said thus unto the Ministers: You manifest unto us the danger of dis-

innocencie, and every one of the rest took it severally upon their death, that they were utterly guiltlesse, and so, one by one, with great cheerfulness, they suffered the fatal stroke."

After the execution, Captain Welden, the English agent at Banda, proceeded to Amboina, and having conducted a brief investigation there into the facts of the recent occurrences, gathered together the remnants of the Company's establishment, and proceeded in a hired pinnace to Batavia, whither the two pardoned factors—Beomont and Collins—had preceded him. On Welden's arrival, the English president drew up a protest against the Dutch Governor's "presumptuous proceedings" for "imprisoning, torturing, condemning and bloodily executing His Majesty's subjects, and for confiscating their goods in direct violation of the Treaty, whereby the King was disgraced and dishonoured, and the English nation scandalised." Carpentier met the English protest somewhat coolly, and even went the length of refusing to give the English president an authorised copy of the judicial record at Amboina "in order to prevent quarrels and troubles at this place." But it is clear from a report which was sent to the directors soon after the receipt of the news of the condem-

nation and execution of Towerson and his fellows that the Governor-General was very far from justifying the action of Van Speult. In this document, having reviewed the circumstances of the trial, Carpentier severely criticised the action taken in several respects. He "wished that in these proceedings the proper style of justice had been followed, and that the different parts of the lawsuit had been applied in full." Isaac de Bruyne, who had prosecuted as Advocate-Fiscal, "called himself a lawyer and had been taken into the Company's service as such," but he "should have shown better judgment in the affair." It seemed as if the whole of the Council "confided in the dignity of de Bruyne's title, left him to make the draught of the documents, and none of them had dared to add anything to them of their own. We do not intend to excuse or to abate by this the treason itself, not in the least, for it is well known enough, but in order better to silence those who are partial and who will not be wanting with conclusive well drawn instruments." Then follows this important and significant passage: "We think the rigour of justice should have been mitigated somewhat with Dutch clemency (with consideration to a nation who is our neighbour, especially if such could be done without

prejudice to the State and the dignity of justice as we think could have been done here: it is a bad war where all remain."

Carpentier continued: "The English openly declare and maintain in all their writings that their people have been accused, condemned and executed unjustly and that the confessions have no value, as they have been drawn forth by fire and water. They have asked us whether we approved of this affair or not, and on what authority Governor Van Speult has done these things. We answered them as you may see in the correspondence which is enclosed."

Governor Van Speult had released two English also guilty of this treason, on condition of our mercy being bestowed upon them, in order that they might take care of the goods of the English factory on Amboyna. These were afterwards sent hither with the *Eenhoorn* (Unicorn), one of whom escaped in an English boat, through the bad care of our people, which boat passed the ship on these roads; he was received in the English factory. We thought it better not to claim him; the other one we have pardoned with advice of the Council and on his humble request, and his *expressed repentance*, and sent him with all his documents to the house of the English President."

CHAPTER VII.

Indignation in England at the Amboina Executions—Action by the Court of the East India Company—Publication of the Pamphlet "A True Declaration" giving the Dutch Version of the Episode—Denunciation of the Publication as a Libel—Reply to "A True Declaration"—Inquiry at Batavia into the Executions—Appeal to Cromwell to obtain Reparation—Settlement in the Treaty of Westminster—Review of the Circumstances of the Tragedy.

IN England the news of the events at Amboina created, as the disclosure was calculated to do, the utmost excitement. A great cry went up for vengeance. The Lords of the Privy Council "shed tears at the relation of the tortures inflicted by the Dutch upon our men." The King himself "took it very much to heart." Those who wished well to the Dutch "could not speak or hear of it without indignation." And "none in the Assembly of the States General approved the cruel tortures of the bloody executions."* "For my part," wrote Chamberlain to Carleton, the English Ambassador at The Hague, "if there were no wiser than I, we should stay or arrest the first Indian ship that comes in our way and hang up upon Dover cliffs as many as we should find faulty or actors in this business and then dispute the matter afterwards; for there is no other course to be held with such manner of men, as neither regard law nor justice, nor any other respect of equity or humanity, but only make gain their God."†

At the Court of the East India Company, where the subject was anxiously debated, it was held to be impossible for the Company to proceed in their trade "except the Dutch make real restitution for damages, execute justice upon those who had in so great fury and tyranny tortured and slain the English, and give security for the future;" and it was

unanimously resolved that if these could not be obtained there was no help for it but to abandon their trade, and fetch home what they had in the Indies. At an audience which the Court subsequently had with the King at Wanstead, James promised to secure redress, and advised the Company in no circumstances to abandon its trade. Then followed an elaborate series of negotiations which it would be profitless to follow through their intricate windings.

Meanwhile, from Holland came a counterblast to the "True Relation" of the East India Company in the shape of an anonymous pamphlet entitled, "A True Declaration of the Conspiracy in Amboyna." In this effusion the story of the relations of the Dutch with the Ternatans is told, and it is pointed out that these people in the period immediately preceding the affair at Amboina had committed many outrages, and at Lohu had actually set on fire and destroyed the Dutch factory. "By reason of these said things," the writer proceeds, "the said Ternatans became so stout and daring, that they gave out openly that they would come and spoil our subjects by a general army with about 100 frigets; with these they said they would come against Amboyna to make a universall spoile of our people, through which there came a great feare upon the Indians standing under the subjection of the High and Mighty Lords the States, as also over the Netherlanders. In the islands lying farre eastward of Banda, it was also said, and the newes

went currently there, that the Hollanders were sure enough quit of the Castle of Amboyna; and at that time there were divers secret correspondencies betwene the Indians and others, which gave us great suspicion. By this means the Netherlands Governor and Council of Amboyna were moved to have speciall regard, and looke narrowly unto all things, seeing that it might bee thence clearly gathered, that something might be plotted against the State in Amboyna, and that the Indians (of themselves) durst not offer to undertake any such great designe without some great helpe of some of Europe, either of Spaniards, Portugalls, or some others; and also they understood that they, of Lohu, Cambello, &c., had great secret correspondence with the English merchants."

Concerning the adequacy of the jurisdiction, the anonymous author of the pamphlet writes: "Your worship and each reasonable man knoweth that every land hath the lawes and ordinances, and their particular manner of proceedings, as well in civil as in criminal cases. England hath hers, France, Spaine, Dutchland (? Germany), Netherland, and all other Kingdomes and Governments have also theirs, which are just and lawfull to everyone in their dominion; so that when any man will judge of the equity or injustice of a proceeding used in any land he must examine

* Calendar of State Papers, Colonial Series.
† Ibid. No. 524.

* The pamphlet is supposed to have been sent "from a friend in the Low Countries to a friend of note in England."

the same according to the lawes and customes of the kingdom or dominion where the justices and proceedings were holden. These proceedings were holden by the Netherlandish Governor, in the name of the illustrious lords the States, having supreme power many years since in the isles of Amboyna, which were conquered (in the name of the said Lords the States) from the Spaniards and Portugalls, who held the castle in the name of the King of Spaine, our hereditary enemy; therefore, they are now possessed in the name of the Lords the States, and are under their dominion by a just and lawfull title of warre according to the law of nations." As to the argument that the matter ought to have been referred for decision to the Council of Defence, the writer thought that "every understanding man (not loving discord) must confesse that neither in the said treaty, nor in the enlargement, any one article or word could be perceived, whereby (according to that which is untruly said in England) either this or any such thing is ordayned or decided by the said treaty, as it ought to have clearly beene in so great and important a point as this part of jurisdiction is." While there was this omission, the Treaty, on the other hand, stipulated "that castles and forts shall remayne in their hands who at present doe possesse them."

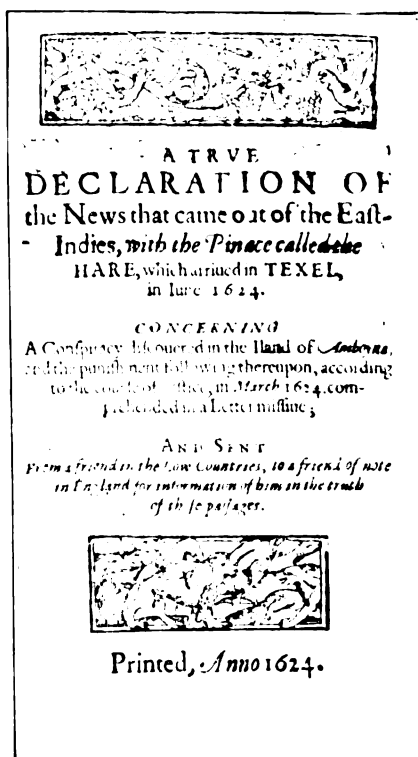
In some final passages the writer deals with the torture of the prisoners. He confesses that "no argument or pretext against the justice of this execution, hath more moved me in the beginning than this pretence of excesse aforesaid, because this stirreth Christian compassion." But he remembered "that in the time of former mistakings in the Indies many things were pretended on both parts, upon which there were great outcries on either side, which yet by due examination were found to be (though faire yet) false pretexts of some ill willers and men desirous to wrangle." Inquiry had been made by the States General into the truth of the allegations, "And it doth plainly appear that there is little faith in the matter of torture, reported to bee most cruelly inflicted upon the English conspirators, as in England it is said. And I have ever suspected this for a slander, for I know the Dutch nation doth naturally abhorre this kinde of cruelty, and are as much moved to commiseration as any other people." The justice or injustice of an action, the writer goes on to argue, must be judged according to the laws of the country where it takes place and not those of other lands. "If this were not so, why then should not the whole world much more judge that as a hard, and a thing unheard (and therefore condemnable) which in some cases is used in England, according to the lawes there, when they proceed against some guilty person; who being once and againe asked of the judge and utterly refusing to bee legally tried is adjudged as dumbe, that is by contumacy; whose condemnation then accordingly followeth, that hee is laid upon a table or planke, and another planke upon him, and so much weight of stone or lead laid upon him that his body is miserably bruised and so pressed violently to death. The which, according to the confession of all nations (especially because this kinde of justice is not used in other lands) and by the English writers is judged to bee one of the most sharpe and severe kindes of death that can be invented; yet cannot such an execution bee called cruell and unlawfull when it is done in England, because it is done according to the lawes of that land, though strangers shall judge otherwise of it. And in like manner the English nation cannot complaine of the torture which evill willers say was used upon these

English conspirators in Amboyna, because it was done according to the lawes of this Government and is not unusual in cases of treason, neither with us nor any nation in Europe."

The publication of this pamphlet caused not a little indignation. It was denounced as a gross libel upon English judicial procedure, and a demand was made for justice against the author and printer, and satisfaction for the outrage done to the King in the person of his subjects. The Dutch East India Company repudiated all knowledge of the authorship of the pamphlet, and they declared that many of their number wished it had not been done.* Following upon a formal complaint by the English Ambassador at The Hague, the States General issued a proclamation declaring the "True Declaration" to be a scandalous and senseless libel, the author, printers and sellers of which ought to be punished, and offering a reward of 400 guilders for the discovery of

In conjunction with the circulation of "A True Relation," the Company issued a reply* to "A True Declaration." In this the writer traversed the statements of the Dutch apologist. One very effective passage is that in which he analyses the statements relative to the plot which were set forth in the judicial proceedings, and relied upon by the writer. According to the confession of Emanuel Tomson, Johnson and Price were sent out to treat with the Japanese, and win their consent to the enterprise. "But," asks the writer, "what should these (being all but ten) have done? Marrie (saith the relation by and by) Master Towerson had ordeined, that eight of them should have bin bestowed, by two in a Company, upon the four points of the Castle, to kill all those that should resist them, and to take the rest prisoners. It must bee, therefore, here imagined that the Dutch and their mardikets in their Castle, being three or 4 hundred would scorne to take the advantage of sending fortie or fittie, much more of an entire Company, to any point of the Castle, but would combat with the Japons at even hand by two at a time, and so give the Japons leave or respite to kill or take them by two and by two. A sweet conceit! and such a service as hath bin sometimes represented upon a stage, but never acted in surprise of a Castle in good earnest. Thus we see how eight of the Japons were to bee employed. What should the other two have done? Forsooth they should have waited in the great chamber to murder the Governor. Yea, but this relation told us yet awhile that this plot should have been executed when the Governor was abroad upon some action. How then should these two Japons have killed him in the Castle at the same time?" The conundrum is certainly one which it is difficult to answer.

For a considerable period negotiations proceeded between the Dutch and the English as to the giving of redress for the affair at Amboyna. Little of importance occurred until Lawrence de Mareschalk, one of the judges of the Amboyna prisoners, arrived in Holland, about the middle of September, 1624. Nothing would satisfy the English East India Company but that the States should "hang him up." The States were not prepared to go to this length, but they caused De Mareschalk to be examined as to the transactions. De Mareschalk swore that Collins, without any torment, voluntarily confessed the plot before Towerson and all the English; and that Towerson did the same on being brought before Collins. He stated that the latter, kneeling before Towerson, asked his pardon, saying: "I must confess the truth, for I do not wish to endure any torment for the love of you." Mareschalk's deposition, on being submitted to the English East India Company, was denounced by them as a tissue of falsehoods, and the offer was made by them to send to Holland three of the survivors to confront him and refute his allegations. The offer, as far as can be discovered, was not accepted. After further protracted negotiations, the States finally issued orders directing that the Governor of Amboyna and all who had had a hand in the trial and condemnation of Towerson and his associates should be sent home for trial. It does not appear that these orders were ever executed, but there are voluminous



FACSIMILE OF THE TITLE PAGE OF THE DUTCH COUNTERBLAST TO "A TRUE RELATION."

either the author or the printer. Owing to the publication of "A True Declaration" the English East India Company obtained leave from the king to print their own "True Relation," and this was issued in due course with a preface in which it was explained why the East India Company "cometh now at last to the press." Copies were printed in English and Dutch, and in order that the pamphlet might not be taken for a libel, the arms of the East India Company were set upon the front of each book in token that they vouched for the truth of its contents. †

* Calendar of State Papers, Colonial Series, No. 553.

† It may be interesting here to record that "A True Relation" went through three editions between 1624 and 1632; that a fourth edition was published during the interregnum between 1651 and 1653, and a fifth in 1672. Finally, in 1688, Elkannah Settle published his famous edition "Insignia Batavice, or the Dutch Trophies Displayed," in which (in an epistle to the reader) he expressed the strongest objection to "The Invasion of 1628."

* "The answer unto the Dutch pamphlet, made in defence of the unjust and barbarous proceedings against the English at Amboyna, in the East Indies, by the Hollanders there." London, 1624.

records of examinations, conducted at Batavia in 1625, of the principal actors in this "affair of Amboyna" as it was termed. The English president and Council were asked to send representatives to attend these examinations, but they declined to do so. At the outset Mr. J. Jans van Santen and Mr. Herman Craeyvanger, "two of the Amboyna judges," were examined. Afterwards, on September 10, 1625, Van Speult and several other officials were called, and made long statements. The gist of their declarations was that all the Japanese conspirators, "separately and when together, persisted in their general declarations after they had been heard, without being tortured or bound," and that "the English accomplices voluntarily conformed and signed their confessions respectively, without pain, and without being in irons, several times to which confession they afterwards stuck in full and extended Council. Having been examined and re-examined some three or four times they persisted in it to the end, without having any words changed or renewed." It was stated that Van Speult, shortly before the execution, told them "as he had done to each of them privately, that if anyone was amongst, who for fear of justice, or threats, or to avoid pain, had acknowledged anything, or signed anything, whereby he had accused or wronged himself or anyone else, they should say so. . . . At these words every one of them shrugged his shoulders, and said that that which they had confessed privately and signed was the truth, and that they, therefore, stuck to it, only praying for mercy and no justice."

Another piece of evidence brought forward was the fact that Emanuel Thomson, when "free and unbound" after his examination, was asked why he had persisted so long and had tolerated his examination such a long time, and had replied that Captain Towerson had always reproached him with insobriety, and that he had taken an oath to himself that he would neither be the third nor the fourth by whom the affairs would transpire, "whatever pain one might be able to make him suffer." It is further averred that some days after his examination Thomson, on being called before his examiners, "told them he was glad God had brought things to light, for much guiltless blood would have been shed, and although he acknowledged he had fully deserved capital punishment, he nevertheless begged for mercy as he was an old man of nearly 50 years of age." Afterwards so much mercy was shown him "that he was allowed to draw lots with Coulson and Collins, who of those three should be released. Further, two or three days before execution, Captain Towerson, when together with all the English in one room, the Governor and his Council being present, reproached the English generally that their debauchery, their lewdness and their insobriety was the fault of God having not allowed them to keep their plot secret, and thereby they had now come to this misery." Towerson, at the last moment, "begged his accomplices' pardon, that they had been incited to this affair of conspiracy by him, Towerson. . . . that it had come to this, that God the Lord had brought this to light and that he had to die, and that as he had brought them into this danger, he prayed them they should forgive him, which they did." Finally is adduced the fact "that shortly before his death, the said Towerson wrote a letter, which letter is still in the hands of the Governor of Amboyna, Mr. Harman van Speult, wherein he, Towerson, informs the said Coulson that he, Coulson, had been the cause of his first consenting to this affair of the Castle, which

he nevertheless would forgive him." This singular batch of statements ends with this declaration: "We bailiff and sheriffs of the town of Batavia declare and certify on the oath we took at the beginning of our post and employment that it is true that the torture with water has always been used by the Dutch in India as being the most civil and causes less pain than the torture generally used in all Europe which is always looked upon as much more painful, much harder and much more dangerous than the one with water whereby neither the health of persons nor any member of their body is hurt or mutilated."

Some curious evidence was given during these investigations as to the character of the torture administered. Jan Joosten, councillor and factor at Amboyna, testified that "some of the prisoners confessed voluntarily; others after being tortured with water; only two Englishmen, Thomson and Clarke, were tortured with burning candles under their arm-pits and feet." Witness did not believe that Beomont, one of the English, could have heard any of his fellow prisoners screaming or groaning under the torture, "for the walls between the place where Beomont was in prison and the place where torturing took place (appropriately called 'the Chamber of Horrors'—Editor) were about three feet thick, which is too much, he thinks, for any noise going through. Moreover, the said persons were tortured with water, and that special way of torturing did not allow the patients to make much noise, as anyone who has been in these quarters can tell." Witness admitted that Clarke was tortured with fire. "He was burnt with candles under the arm-pits and feet, but not so that by such burning any open wounds could be seen on his body, as was indeed impossible, for the candle was moved to and fro the said members of his body." Witness could not say how long the torture lasted, "but knows that it was for a longer time than of the other persons, for he was more obstinate, and several times when they would torture him he promised to tell the truth: when he was relieved then they began to sing his old song of not being guilty, so the Council seeing themselves often frustrated in hearing the truth at last had the said Clarke tortured in that way."

Negotiations continued intermittently for a long period, but, as the years went on, with less prospect of a settlement being reached, it was suspected in England at the time that the wheels of diplomacy were clogged by the judicious use by the Dutch Company of the power of the purse, and it is not altogether beyond the bounds of probability that such influences were at work. At all events, in spite of the most strenuous efforts of the English East India Company, they were unable to obtain redress. The Parliamentary struggle of Charles I.'s reign and the great Civil War prevented that degree of attention being given to the Company's claims which their character warranted, and it was not until the time of the Commonwealth that Amboyna again took a place in political terminology. The controversy was started by the re-issue in 1651 of "A True Relation," prefaced by an address to Cromwell, in which the writer invited his attention to "a piece of barbarism which hath lain so long both as an injury and a dishonour to our nation," and expressed the hope that the Protector's great soul would descend to look into the business. There was also "an advertisement to the reader," in which a lament was uttered that justice had been so long delayed. "True it is," said the writer, "that the East India Company made

the most diligent addresses to King James for revenge that could be, but the blazing Star of Fortune,* that was after removed by a stab, prepossessed by a great sum of money, interposed between the judgment of that King, and over-ruled his affection so that he who was naturally inactive and drowsie enough being lul'd by such a *privado*, fell asleep and snorted out the rest of his idle reign in debauchery and silence. The East India Company, seeing themselves obstructed in the prosecution, thought fit to preserve the memory of such a butchery by getting the several tortures done at large in oyl, but the work was scarce sooner hung up, but the murderers began to fear it would bleed at the nose; so that Buckingham was appeased by another sacrifice and the picture commanded to be taken down." In Charles's time the gravity of events at home prevented the matter being agitated. "But now since that yolk of Kingship is taken off our necks, methinks we should, like men whose shackles are taken off them while they are asleep, leap up nimbly and make use of our liberty." It is a matter of history that the appeal was not made to Cromwell in vain. He took up the question with vigour, and prosecuted it to a successful conclusion in the Treaty of Westminster of 1658.

Nearly three centuries have elapsed since the occurrence of the tragic episode of Amboyna, and with the lapse of time have dispersed the mists of prejudice and passion which prevented a clear view of the issues involved. Regarding the matter in the full light now obtainable from contemporary records preserved by both parties to the fierce controversy, it is impossible to avoid the conclusion that while the execution of the Englishman was a terrible and unnecessary piece of severity, Van Speult and the members of his Council acted in good faith. They were genuinely persuaded that the English were conspiring for their overthrow, and they honestly believed that it was essential for the safety of their position that they should act with the utmost promptitude and severity. Nor, when we look at the position of the Dutch at this juncture, is it surprising that they should have been exceptionally nervous about their safety. A few months before, a Dutch expedition sent to capture Macao had been repulsed with the loss of 300 men—a serious disaster, having regard to the impossibility of replacing the force for many months. Almost simultaneously with the reception of the news of this affair at Batavia, two Dutch ships, the *Mauritius* and the *Rotterdam*, had arrived in port from Holland after a terrible voyage, during which no fewer than 530 men had died from sickness. But the greatest disturbing factor, as far as the Moluccas was concerned, was the occurrence of a fierce rebellion in Banda in September, 1622, which the Dutch had stamped out with characteristic rigour. Eight chiefs who were implicated were quartered, and 161 other principals were executed in an ordinary fashion. This severity had bred a very bad feeling among the natives on all the islands, and the inhabitants would unquestionably have risen almost to a man if they could have relied on European assistance. How far Towerson and his men encouraged this movement it is difficult to say in the absence of positive proof. But arguing from what had occurred elsewhere in similar circumstances, and bearing in mind the rebuke which the English president and Council at Batavia

* Buckingham

administered only a few months before the tragedy to the Company's chief agent on Ternate, it is not at all improbable that there was some fanning of the flames of native resentment by the English. It may be that the action did not go beyond some vapouring comments on the determination of the English not to allow themselves to be squeezed out of the trade of the islands. But, even so, the observations would have been quite enough to arouse the suspicion of the Dutch and induce that condition of mind which would make them ready to credit any story, however impossible it might appear to be on calm reflection. The truth probably is, that the declaration of the Japanese involving the English was a pure invention put forward to avert further torture. That it was confirmed by the English prisoners is not remarkable, in view of the fact that the examiners were the same, and that they used the same coercive methods to make the witnesses speak. In truth, there was not a

title of evidence of a direct kind involving the English in the conspiracy which would be accepted by a modern Court of law. Van Speult at Batavia referred to a letter which Towerson had written containing proof of his guilt. But it was never produced, so far as can be discovered, and it may be questioned whether any such document really existed. However the question of the prisoners' innocence may be regarded, it cannot be questioned that their execution was a grave blunder. Nothing would have been lost by referring the sentence for confirmation to Batavia. On the other hand, there was much to be gained from the transfer of responsibility. The Court at Batavia was perfectly competent to deal with a matter of the kind, and its decision, whatever it might have been, would not have created the deep-seated resentment that the proceedings of Van Speult and his Council did. That this is a view which commended itself to the Dutch authorities at Batavia we have already seen, and

their opinion found a strong echo in the highest quarters at home, as is proved by a remark made by Prince Maurice soon after the news of the episode arrived in Europe. The Prince told Carleton, the English Ambassador at The Hague, that he devoutly wished that "when Speult began to spell" this tragedy he had been hanged upon a gibbet with his Council about him." It was an observation possibly extorted from the Prince by the passing irritation of the moment, but we may take it that it represented the genuine opinion of the great head of the Dutch nation, whose innate sense of justice would be offended by the high-handed proceedings of Van Speult and his fellows. With this striking expression of view we may leave the question.

* Obviously the pun here was not upon the English word "spell," but upon the Dutch phrase *spelen*, which means "to play."

CHAPTER VIII.

Disputes between the English and Dutch Admirals of the Fleet of Defence—English quit Batavia and remove to Lagundy in the Straits of Sunda—A Fatal Move—Dutch Ships sent to remove the English from Lagundy—English Company press their Claims at Home—Their Demand for Coen's Detention—Coen leaves Europe surreptitiously and resumes the Office of Governor-General at Batavia—English remove to Bantam—English Factory at Batavia burnt down—Joint Operations against Portuguese in Western Indies—Van Speult's Death—A Dutch Prisoner's Story.

QUITE apart from the affair of Amboina, the relations of the English and the Dutch in the period following the proclamation of the Treaty of Defence were of the most unsatisfactory description. The arrangement at all points worked ill. Now the disturbing factor was accounts, next it was jurisdiction, later it was excise, and, again, it was a question of personal rank or privilege. Always, there seemed to be some point of difference ready to hand to arouse dissension. Perhaps of all the sources of disagreement at this juncture the most acute and bitterly contested related to the Fleet of Defence. We have had glimpses in preceding chapters of the working of this combined force in the China Seas, and of the jealousies and antagonisms excited there owing to divided authority and lack of cordiality on the part of the English in pursuit of what they regarded as a policy of Dutch aggrandisement. These influences were no fleeting tendencies due to local or personal causes. They were inherent in the situation created by an alliance made, under conditions unsatisfactory to both, between two rival commercial authorities sharply divided from each other by strong racial prejudice, the memory of past embittered conflicts, and the action of present discontents.

The smouldering fires of animosity were suppressed for a time, and the two Councils co-operated with a show of cordiality in the preparation of a fleet whose mission was to prevent the Portuguese carracques from returning from Goa to Portugal with their pepper cargoes. The joint fleet, numbering eleven vessels—seven Dutch and four English—sailed late in 1620 for the Western coast of India. The voyage had not proceeded

far before disputes arose between Dedel, the Dutch Admiral, and Fitzherbert, his English associate. A great bone of contention was the despatch of two ships by Dedel to the Red Sea to exploit the trade of that region in the Dutch interests. In consequence of these occurrences, Fitzherbert and his English colleagues on the Council of Defence, were of opinion that the Dutch never intended to make the voyage as they pretended, but designed "to the great dishonour of the English merchants, to the prejudice of the President and Council of Defence at Batavia, to ridicule us, the English nation who were employed on this expedition." Consequently, in a joint declaration, the English Council gave notice that they did not feel bound to pay any losses or damage that might occur to the ships of the Dutch Company in consequence of the change of plans, and further would claim damages for the losses sustained by the English. Finally, they intimated that they would sail with the three English vessels to the islands of Comorres to refresh.

In a "counter protest," Dedel brought recriminatory charges against the English, and said that as to "the frivolous calumniating of the Honourable Council of the Dutch at Batavia," the accusation proceeded "more from a bad than a sincere Christian mind." The Dutch never did, as alleged by Fitzherbert, separate from the English ships, and had always kept and would still keep to the alliance. "As to what happened last year at Banda, Amboina and the Moluccas, the Admiral heard something of it, but it is unnecessary to make much paper dirty with it. It may be left to impartial people to decide how kindly you were treated there

and (how) you behaved yourself." The despatch of the two Dutch ships to the Red Sea, Dedel argued, was well within the scope of the instructions of the Council of Defence. "It seems," proceeded the writer, "that your way of acting is to come to the front with big and plain false statements and to base your ungrounded protest on them. Please remember that this is not our custom and we have a horror of it; therefore, we ask you kindly to leave such bad manners towards us and to exercise them towards other nations who do not mind it."

At this point a veil falls over the proceedings of the Fleet of Defence. When the curtain again rises, we see the Dutch and English eighteen months later still squabbling, though in the interim Fitzherbert, the English commander, had been removed by death. What had happened to the fleet during the period may be gathered from the voluminous documents recorded. The first of these is a letter from Dedel to the Council of Defence at Batavia intimating that at a Council held on August 19, 1622, Fitzherbert's successor, Michael Greene, "had refused to answer punctually the questions which Admiral Dedel put to him, but angrily said he did not like questions being put to him in that way; that boys had to be treated thus, not he." In consequence of this refusal, Dedel had the questions written out and forwarded to Greene for him to answer them. It is not perhaps remarkable that he resented the Dutch Admiral's cross-examination, for the interrogatories supplied contained allegations of insufficient support in an action with some Portuguese ships off Mozambique, and of the plundering of one of them (the *St. Joseph*)

by the English crews. Greene, however, answered the questions, and having done so issued to Dedel a series of counter interrogatories, in which he brought against the Dutch commander charges similar to those which had originally been preferred against himself. According to the English account what had happened was this: While in pursuit of a Portuguese vessel in a bay in Mozambique, three Dutch ships ran aground. There now only remained two Dutch vessels—the *Fortuyn* and the *Zuyd Holland*—and three English vessels to continue the expedition. On July 12, 1622, three carracques and one galleon were sighted. The next morning the ships were attacked, and a battle raged furiously until 6 p.m. The *Royal Exchange*, the leading English ship, had then lost its masts, and the same night it was attacked by the Portuguese, who set its poop on fire and did other damage. Complaint was made by the English that Dedel did not go to their assistance. The next day the battle was resumed and continued until dark, when, as the English were afraid they might run aground, they did not dare to continue the pursuit. Eventually the carracques were run ashore by Portuguese, and one sunk after a portion of its cargo had been removed by the English. The English asserted that all might have been captured with their valuable cargo, estimated at £500,000, if Dedel had co-operated. The English and Dutch ships parted on August 31, 1622, the former proceeding to Chaul and the latter to Surat.

Dedel strenuously contested the truth of many of the statements made by the English. Replying to the allegation that the Dutch ships were unseaworthy, he says: "The English pinnace *Dragon's Claw* had to be abandoned as it was leaky and would burst. Thus it is no affair to talk loudly and tell stories and to consider that other people's vessels are unfit to sail, while one possesses himself a ship *Anne*, whereof the beams in the hold give way, and a *Diamond* which nearly falls to pieces." He averred that Greene's ship "did not approach the enemy close enough to do any harm," and charged him with cowardice.

Greene replied to Dedel in a statement in which he did not mince his language. Referring to the charge of cowardice, he said: "Mr. Greene returns the charge of cowardice to Mr. Dedel and says that all his boasting and bragging will not give him the appearance, as it he had been courageous." Greene maintained that it was Dedel's wilful breach of his instructions, "his artful proceedings in the battle with the caracques and his obstinately leaving the fleet for Surat" which had led to the failure of the expedition.

In a letter of January 3, 1624, to the directors at Amsterdam, Carpentier reported the return in July, 1623, of the Fleet of Defence, and stated that the Dutch would like to send another expedition, but the English would not assist, and had even discharged themselves from their part in the common defence and siege of Bantam. Further they had shown a disinclination to join in resisting the King of Achin's threatened aggression on Djambi: "All in all, they should like to turn it in that way that we resisted the Achinese alone, made him our enemy, while they remained friends of both." The Dutch, however, would not leave Djambi, as the English had not yet decided whether they would leave Batavia or not, and if they left it the Dutch would not leave Djambi quite open for them. The Governor-General thought the English did not intend "to give themselves much trouble for a rendezvous of their own, partly to escape the great expenses

which such thing would involve, partly because not many places are still left of extraordinary good situation which are not in the hands of possessors."

The English, he further stated, had declined to continue the expeditions to Goa for three reasons, viz. :—

"1. On account of the unreasonableness of Admiral Dedel (as they maintain) on the expedition to Goa and Mozambique.

"2. Because the Dutch Company through those expeditions tried more to promote its own power than the benefit of both Companies.

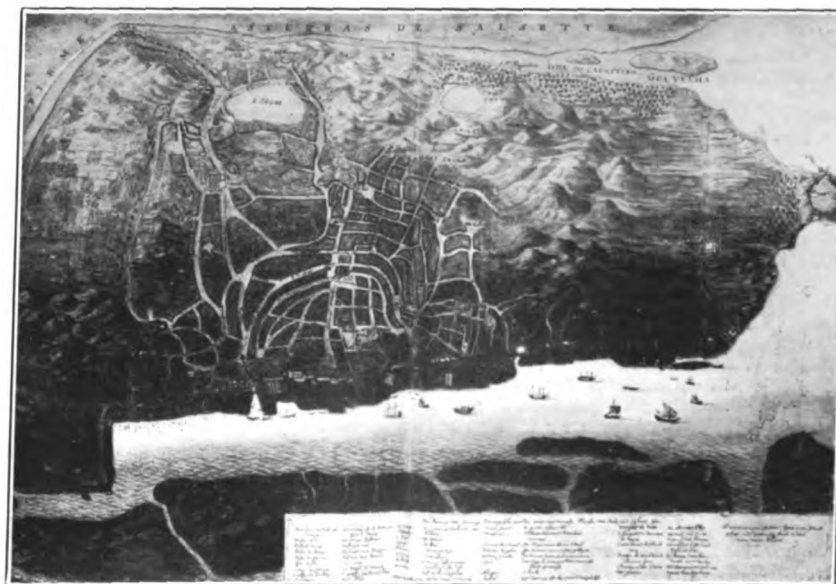
"3. Because the treaty related to a war of defence, not of offence.

"Moreover," continued Carpentier, "they have withdrawn themselves from the common defence and have no intention to enter upon it again before they are indemnified for the loss they pretend they have suffered through the proceedings of Admiral Dedel on the expedition to Mozambique and Goa. Also they refuse to do so before they are again enjoying their

the cause, and we had given them reason for separation, in order to have two ways out and not to break the contract, forsooth!"

After dilating at some further length on the shiftiness of the English factors, Carpentier goes on: "The English have left the Moluccas, Banda and Amboina. They do not intend, however, to give up trade at those quarters for ever, but only withdrew their people in order to escape from the intolerable exactions of the Dutch and their usurped authority over their nation in those quarters." They are willing to resume trade when they can be reinstated in their former liberty and respect, which includes so much that we do not see the means we can accommodate them without great prejudice to the Dutch Company."

Carpentier mentioned that the English had made proposals that they should open a trade with Bantam and that he had objected on the ground that "trade with Bantam concerned both Companies respectively, that one Company as well as the other had to be free there, and that we had to assist and help each other herein with such expedients as we both



ANCIENT VIEW OF GOA.

(From a drawing preserved at the State Records Office, The Hague.)

privileges (which were granted to them in the Treaty of 1610) or before they have received answer from their masters in what manner they are to behave themselves towards the Dutch Company in present circumstances."

Carpentier proceeds: "We should have liked to have settled all differences and misunderstandings with each other here in the Indies, which could have been done easily if only the English would have stuck to reason, contracts, treaties, regulations and resolutions. But whereas their purpose extends much further than only indemnification for abuses and misunderstandings. They have cut the way to accommodation through unjustifiable proceedings which they specially sought for and they fawned so far that they were sure we would never condescend to such unique pretences (while they did not intend to yield in the least) in order to remain free to act as they liked and to be obliged, under pretence of lawful title, to withdraw themselves from the common defence. As if we had been

thought were advisable." At last, "after many arguments *pro* and *contra* the English plainly stated they would no longer desist but were fully decided to go to Bantam, asking us to give our advice and consent and to answer them whether we would resist them with arms or whether we would refer their proceedings to Europe; if we intended to resist them with force they acknowledged the question would have come to an end, but if we intended to refer the question to Europe, they would continue on their own responsibility." To this the reply was given that the current of events would show best what was the Dutch intention. "We could not," says the writer, "resolve to show them our intention in one point or other, and we could not guess what they would do, for if we told them we would resist them with force they would have the better reason for protesting against us, and if we had consented to refer it to Europe, and, meanwhile, allow them to continue, they would have settled themselves at Bantam and

we would have remained out of it." "All in all," concludes Carpentier with a homely simile, "a disagreeable wife is bestowed on us, and we do not know how it is possible to keep you out of dispute and quarrels, if we at least shall properly maintain your rights."

Another letter, dated January 29, 1624, shows a further widening of the rift in the lute. In this communication, Carpentier refers to a new dispute which had arisen relative to a demand which had been preferred by the Dutch to the English that the latter should keep their slaves within their *pagger* (enclosure), and also remove the houses of those natives within the same boundary. In consequence of an attempt made to enforce this order, the English "in certain writings bitterly and passionately fulminated against us in general terms, viz., that our intolerable impositions, duties, exactions, insufferable oppressions, and at present this last treatment sufficiently indicated to them that Batavia was not a place for them to reside in, but that they were obliged to look out for another place of residence which they said they could choose in all quarters of the Indies except at those places where we had possessions, wherefore they at the end requested us to allow them to take leave peacefully as soon as they would have found a place.

"They cannot forget Bantam as far as we can see, and they openly declare they should like to go thither, if we only would allow them. No doubt they will at once start for Bantam as soon as they will have got the power to do it, and then they will not be turned out by a simple protest, and by no means will it be prudent to trust them trading there for both Companies."

In order to intimidate the English to abandon their idea of settling at Bantam, the Dutch Council sent Commander Jan van Gorcum with five ships (one of which was named *Engelsche Beer**) to that port. This action elicited a fierce protest from the English Council, but they did not attempt, in the face of superior force, to carry out their project of settling at Bantam. The subsequent course of events is related by Carpentier in a communication to the directors. After stating that though there had been for a long time rumours that the English intended to quit Batavia, it was only in August that it became evident that they had a serious intention to do so, he says: "In order to keep their design secret and to abuse us, they told the people that they were going to settle at Poulo Carimon, but we did not trust this, as we were fully convinced they would not go so far from Bantam which they had tried to obtain with body and soul. Therefore, we resolved to get before them. We sent 25th August Commander Van Gorcum with the yachts *Goa* and *Muyo* to the Straits of Sunda in order to examine the islands of Cracatou, Cebessi and Bessi; also to take into possession the one which was most able for anchoring at with the ships and was most covered with woods, until we would have heard whither the English intended to go, in order that we might not remain devoid of these islands by their interception. . . . After Commander Gorcum had taken possession of the islands of Bessi and Cebessi on 28th August, the English arrived on the 29th with special order from their president to take possession of the islands."

The English at Batavia asked for the restitution of the islands on the ground that the Dutch had taken them surreptitiously,

but the Dutch refused to relinquish them. On Cebessi, the Dutch built a fort and garrisoned it with thirty-five or forty men pending the receipt of orders from Holland.

On December 11, 1624, the English quitted Batavia with their people, ships, and all their property, leaving only three or four persons behind to take charge of their factory. They sailed to the Straits of Sunda, where they fortified themselves on the island of Lagundy, "intending they say to make it an anti-Batavia." "The island," Carpentier proceeds, "is near the coast of Sumatra out of the usual course the ships take through the Straits of Sunda, 4 miles more westward than our island Cebessi, so we are lying between it and Bantam." The English, the writer goes on to state, wanted to sell their house, and asked the Dutch before they left whether they were allowed to do so. The Dutch gave permission, but the English changed their mind. "Most probably they would keep footing at Batavia until they saw whether their new colony would succeed or not. The English said themselves they left a few to keep correspondence with the Dutch. The latter immediately made use of this opportunity and promised to send an able person with them to their new settlement to keep up the same friendship and mutual correspondence, which they refused." The Dutch at this period "always kept a good frigate ready to see what the English were doing."

In connection with the departure of the English from Batavia, troubles arose as to the slaves. "The English claimed many women who had married their slaves, saying that the women had to follow their husbands. The Dutch, on the contrary, maintained that often people who had been liberated by the English had asked the Dutch to be allowed to marry some women who were brought to Batavia in Dutch vessels. This had been allowed, but only on condition that this should be with the free consent of the women, and that the English Company should never have any claim on them, but that those who had once obtained liberty should be considered free citizens of the town of Batavia. These conditions had been put into writing and signed by the parties, and the Dutch considered that they were quite within their rights in retaining these people. However, in order to act as accomodably to the English as possible, the Dutch exchanged couples; this was also to prevent divorces."

The Dutch delivered a protest against the English evacuation, and intimated that they would hold them responsible for the common defence "also for Palliacatti's, the Moluccas, Amboyna's, Banda's, and Bantam's garrisons." A protest was also delivered against the intended fortification in the Straits of Sunda as being opposed to the 24th clause of the Treaty.

The move of the English to Lagundy was a fatal blunder. Not only was the island practically useless as a trade centre, but it was terribly unhealthy. Before the new colony had been long established, sickness broke out and soon assumed an epidemic form. At length the condition of the colony became so deplorable that the English Council accepted an offer made by Carpentier to have them removed to Batavia. A large vessel of 1,000 tons burthen and a pinnace were sent to effect the transfer, and after two days' hard work the unfortunates were embarked. According to a muster made on the island prior to departure, out of 225 English, 97 were sick. No fewer than 120 persons belonging to the establishment had died on the island. The survivors arrived at Batavia

in June, 1625, in a miserable condition, and were kindly treated by the Dutch. Afterwards the English president presented Carpentier and each member of his Council with a gold chain in recognition of the services of the Dutch. These friendly manifestations unhappily did not continue for any great length of time. On December 13, 1626, we find Carpentier writing to the directors as follows:—"That the English did not give more trouble is in consequence of their inability, for as they again show their intention remains the same (as) of old. Their pacific and friendly semblance they showed since their return from Lagundi begins again to change in bitter and sharp writings, like that animal benumbed with cold which after the merciful farmer had warmed it and brought it back to life again, so badly recompensed him." Some of the "sharp writings" to which Carpentier alluded dated from a period a good deal anterior to the date of this letter. As early as September, 1625, we find the Dutch and the English Councils disputing about joint measures against the King of Achin and the Bantam trade. Another subject upon which opinions were divided was the desirability of despatching an expedition to Surat to cope with the Portuguese. The English at first pleaded their inability to send a vessel, but ultimately joined in the operations. But the partnership was held together by the flimsiest bonds, and it would probably have been ruptured completely had not negotiations been proceeding at home with a view to an adjustment of claims and counter claims preferred.

The English East India Company pressed their demands for redress upon the Government with an insistency born of a despairing belief that their entire trade was in jeopardy. It was their opinion that the great losses they had sustained through the Dutch had ruinously affected their financial position, "for whereas they had formerly divided two or three for one, their £100 stock had fallen 20 per cent., and was not worth more than £80."* The resentment of the Company was concentrated on Coen, who was recognised, and not without justice, as the main cause of all the troubles that had arisen. It was asserted by the directors in an indictment they had drafted against him that he had notoriously violated the Treaty of Defence on several occasions. The first was in February, 1621, when he prepared a fleet of 16 ships and 40 frigates with 4,000 men, surprised the castle at Lantore, and took the English occupants prisoners, subsequently treating them most inhumanly. Another charge against him related to the capture of Pulo Roon by a Dutch force. This island, it was stated, had been in the occupation of the English since December, 1616, and yet Coen, in March, 1621, sent 1,500 men, who razed the walls of the town, entered the forts and threw the ordnance over the rocks. Finally, the directors asserted that "upon the unjust complaint of certain Chinamen (being mere Heathens) he (Coen) condemned the English President and servants at Jakatra in £40,000 and Rs. 10,500 for a fine to the States-General for pretence of wronging their sovereignty;" and it was further stated that "Coen's officers enforced the judgment by forcibly taking goods out of the factory to the value of Rs. 16,182."† A provisional understanding was reached in the instrument known as the Treaty of Southampton, which

* Calendar of State Papers, East India Series, No. 283, Vol. 158.

† Ibid., No. 109, Vol. 158.

* English Bear not Beer.

was signed on September 9, 1625; but this agreement, like others that preceded it, was very far indeed from being a settlement. The fact was shown by the Treaty itself, for at Charles I.'s desire a proviso was annexed declaring that if justice were not done by the States in eighteen months the King would be free to revenge himself by letters of reprisal or by his own forces for damages and outrages at Amboina. Charles was as good as his word. Eighteen months having elapsed without any redress being given, three Dutch ships were boarded off the Isle of Wight and taken to Portsmouth, where they were detained. Meanwhile, the English directors pressed their charges against Coen with all the vehemence of which they were capable. Their efforts were particularly directed to preventing him from being sent out again to the East. With this purpose, all the machinery of diplomacy was brought into play. How it operated is gathered from this interesting letter, dated April 5, 1627,* which Carleton, the English Ambassador at the Hague, addressed to Conway, the Secretary of State:—

"Touching the staying of Coen, the Bewindhebbers (directors) insist as much upon his employment as if *fortuna gratia* had depended upon it; and so wilful were they that they had provided a ship secretly in Zealand to pack him away by Scotland and Ireland to the East Indies whilst we were treating here at the Hague, lest in the narrow seas he might be lighted upon by the King's ships. And he having provided a wife for that voyage, with whom his marriage was refused for want of due bidding the banns by the Ministers of Amsterdam, the Burgomasters, and the Echevins, the chief being Bewindhebbers, caused him to be married privately on Wednesday last with purpose to send him from Zealand and from thence despatch him to the Indies. But he (Carleton) used his endeavours with the States, who wrote a letter commanding his stay, which was delivered in the midst of his marriage feast whereby his mirth was marred."

The directors, however, were too sensible of Coen's great value to them in pushing the aggressive commercial policy upon which they were embarked to be turned from their purpose by diplomatic representations, however strongly made. An opportunity offering, they secretly shipped Coen off to the East, and when he arrived at Batavia at the end of September, 1627, he was, according to an English correspondent, "received as a prince." Coen, on November 9 following, sent home some interesting impressions of the local situation. In his communication he referred to the spoiling of the trade by the English, "a nation wherewith nothing steadfast can be undertaken as to negotiation, whatever binding and everlasting treaties one makes with them." "If they are poor," proceeds the writer, "they come with rules and redress, afraid that they will be overtaken; but as soon as they can break a straw-balm, all goes out of order, and this they have done so often that their credit as to this is nearly at an end. Therefore, we ordered our people they should no more come into contact with the English, but promote the Company's affairs calmly as well as they can, without lacking (slackening) in it in any way for sake of the English, and nevertheless remain friends and correspond with them." He urged the directors to send out more soldiers, and stated that owing to the weakness of the garrison at Batavia, the Bantamese had grown

so audacious that "they landed quite close to the town and sailed up the river, where they pillaged and murdered. On 14 August they murdered thirteen Englishmen in a boat which was sailing down the river, and this quite near to the Castle. Shortly afterwards some Dutchmen were similarly treated. Moreover some Chinese wood-cutters were murdered, and others taken prisoners to Bantam. And the Dutch had not enough people to take revenge." Therefore the directors were advised to send as many people as they were able to do "to complete the beautiful work which at present on all sides is in such condition that its progress, next to God, depends only on you."

Coen's return to Batavia was regarded with profound dissatisfaction by the English there, and as a result of what they regarded as his arbitrary conduct they decided to proceed to Bantam and re-establish their headquarters there. This action on their part was by no means to Coen's liking. He did not want to have a rival English centre created so near Batavia, and, moreover, in the then state of the relations between the Dutch and the Bantam authorities it was in the highest degree inexpedient that there should be active association between the latter and the English. Consequently, Coen registered a formal protest against the removal of the English factory, and when this was disregarded he sent three Dutch vessels with instructions "to anchor as close to the English vessels as possible without hindering their movements" and "in a friendly way to request them to abstain from their obnoxious and pernicious plan." The English were not to be intimidated into an abandonment of their purpose. Landing their establishment and stores, they once more commenced to trade in the unsavoury purlieus of perhaps the most unsanitary port in the East. After their departure, the English factory at Batavia was burnt down. The Dutch alleged that the burning was due to Bantamese, but the English strenuously asserted that the work was done by Coen's orders, and they brought forward evidence which showed that some of the Dutch officials at least were cognizant of the operations of the incendiaries. Whatever the truth may have been, the episode did not tend to promote the more harmonious co-operation of the representatives of the two Companies.

While in Java Dutch and English were separated once more by apparently irreconcilable antagonisms, the two races in India were giving anew practical effect to the Treaty of Defence by waging war against the Portuguese. On November 21, 1627, a joint fleet of sixteen vessels anchored off Surat, after a successful raid along the coast, during which Bombay was visited and some buildings destroyed, and Diu, a flourishing Portuguese town on the same coast, was bombarded. It is a noteworthy fact that an active agent in this co-operation was Van Speult, who on quitting Amboina had been transferred to Surat to overlook the Dutch Company's interests there. Van Speult ought to have proceeded home under the terms of the States General's decree, but the order was evaded and it was destined never to be executed, for we read in the records of his death at Surat at the end of 1627 and of his having received "a magnificent funeral."

On the part of the Dutch, the operations against the Portuguese continued to be waged for years with unceasing energy. Every season a blockading fleet appeared off Goa, and by its vigilance effectually

prevented the ingress or egress of shipping. The warfare was carried on by both parties with uncompromising fierceness. On the Portuguese side, the utmost barbarity was shown to Dutchmen who had the misfortune to fall into their hands. In illustration of this phase of the conflict may be cited a veritable human document in the shape of a diary kept by a Dutch factor, a certain John van den Berg, during a period of confinement at Goa, extending from April 1, 1620, to April 11, 1624. After relating the circumstances of his capture during an engagement off Surat, Van den Berg describes his reception at Goa, where, having been handed over to the Governor, Albuquerque, that functionary "left us to ourselves as Pilatus did to Christ." Heavy fetters weighing 58½ lbs. were put upon Van den Berg, and with another Dutchman, Egbert Hallinck, he was thrust into a loathsome prison, "called by many people Enceneve, or also Inferno." "The room was closed by seven gates, and we could not see sun or moon. Lying on our mattress we could not sleep for the fleas, bugs, rats and mice; as to food and beverage, we often liked to be treated like murderers in whose company we are: a 'bolle-garde' and a handful of rice was a good meal to us; when we could get brackish water we had no reason to complain." The only consolation the prisoners received was from priests, who told them they should no more think of this life, but of the punishment hereafter. Van den Berg "quite agreed with this, but told them, as to that, everyone had to carry his burden; therefore, they should rather tell them what was the Governor's intention; if he intended to kill them he should do it quickly and not leave them in the condition they were in." By a ruse, a letter was extracted by the Portuguese from Van den Berg under the impression that it would be secretly conveyed out of the country to the Dutch at Surat. In this communication, the writer unburdened his mind freely on his woes and on the savagery of the treatment meted out by the Portuguese to the prisoners who had the misfortune to fall into their hands. Having heard an account of the capture of some Portuguese and of the release of the crews, he expresses his surprise, and asks: "Were you English? Are you so fond of this tyrannical octogenarian (Albuquerque), who, if he was allowed would like openly to hang you English, as well as us Dutch, and would like to kill you and us to refresh his bloodthirsty heart? Or are you Dutch? Have you not yet had enough example from the manner in which Duc d'Alva has ruled our country? . . . Will you know both of you where your former prisoners remained and the reason why you don't hear from them? I will write it to you. Some were burnt because they spoke of their religion and would not forsake it; it is a fact that this tyrant D'Albuquerque has sent parties of five and six to sea that they might dive for pearls and that they forgot to come to the surface again. Others who would run away were poisoned, and it was said they died. Others were stabbed, and it was said they had met with an accident. Others were sent to their country, forsooth, to be exchanged, but on the way thither they were miserably killed. Others were slain like the English carpenter and his son on the coast of Cochinchina. . . . I will write you what an Englishman told me on oath, that they cut the nose and ears of some Dutchmen and then drowned them; yea, some of them were flayed before they were drowned and died as martyrs through the Inquisition."

*Calendar of State Papers, East India Series, No. 100, Vol. 158.

That Dutch and English is the account of your people when put into prison. Is it not a beautiful account to answer for before God? Those who escaped ran to the country of the Moors, where they were obliged to be circumcised. Others have died in this hole, not being able to bear the great misery, wretchedness and starvation. I do not reproach the tiger in whose claws we are captured, that it devours us, for it is its nature, but I reproach you Dutchmen

who could save us from these claws and will not." After the discovery of this letter the treatment of Van den Berg became more rigorous. He fell ill and believed that he had been poisoned. In his extreme agony he implored the jailor to put him to death. The ruffian replied, "Ah! you would like to die a nobleman's death, you dog!" Food now was withheld, and Van den Berg had to live on the fish bones which he found amongst the dirt in his prison. At length,

one of the Dutch prisoners "died as a martyr from starvation, having been insulted, spitted in the face, beaten and kicked," during the six weeks in which he had been "lying miserably upon the floor of the prison." The advent to power of a new Viceroy, Dom Francisco da Gama, brought some relief to the wretched captives, and eventually Van den Berg and his fellows, five in number, secured their freedom.

CHAPTER IX.

Enormous Growth of Dutch Power—Development of the Dutch Colonial System—Wealth of the Dutch East India Company—Poverty of the English Company—Javanese Rising against the Dutch—Siege of Batavia—Death of Coen—The English at Macassar—English aid the Enemies of the Dutch—English and Dutch at Surat—Trouble with the Native Governor—Exhaustion of the Dutch Exchequer.

As the narrative has disclosed, the Dutch Company prosecuted their operations with a vigour and enterprise which took no account of the expenditure of either men or means. Nothing, indeed, is more extraordinary in the history of early European commercial development than the vast scale on which the Dutch traders operated, and the steady persistency with which, in the face of heavy reverses and many rebuffs, they directed their monopolistic policy. Before a quarter of a century had passed away, the Dutch name was known and feared throughout the East. Not only had their Company many important settlements, but its ships practically commanded the seas east of the Cape. We catch a glimpse of the strength of the position of the Dutch in these early days in a pamphlet* penned by no friendly hand, for use in the apparently unending controversy between the English and Dutch. In this the writer, dilating on the power of the Dutch, mentions having seen riding at anchor at one time at Batavia 130 sail, great and small, from 300 or 400 tons burthen to 1,300 or 1,400 tons burthen. The statement seems incredible, but in the absence of any motive for making false assertions, it must be accepted as, at all events, approximating to the truth. Unquestionably, their strength was enormous, judged by the maritime standard of those days, and the fact helps to explain much of what the English controversialists termed their "arrogance." They were conscious of their power, and conscious also of the value of that power as a means of securing an exclusive position in the Eastern trade. The early Dutch traders, almost at the outset of their operations grasped what it took the English many years to realise—that real commercial success could only be achieved through the agency of conquest. At many well-chosen points they established posts which were the nuclei of flourishing settlements. With a well-armed and thoroughly disciplined force always at hand, they were

able to protect their trade from the capricious interference of native potentates, and, when the opportunity arose, to push it in new directions. In this way, not only was the Dutch name made to be feared and respected throughout the Eastern seas, but a position of unassailable commercial strength was built up.

Very early in its career, the Company



A JAVANESE IN COURT DRESS.

(From Sir T. S. Raffles' "History of Java.")

found that fortified posts were not alone sufficient to establish Dutch authority and promote the interests of the Company. If the full advantage of its conquests was to be reaped there must be a settlement of the Dutch on the soil on terms sufficiently liberal to reconcile them to permanent expatriation. Coen may be said to have been the author

of this policy. Before he proceeded to Holland in 1624, he left behind him a series of instructions for his successor, which clearly indicate his views on the importance of colonisation. The peopling and gathering of slaves, he said, was of extraordinary consequence—Batavia, Amboina and Banda were already so peopled, but more was required. Ships must be sent "by the next south wind to Silam and other places along the Coromandel coast to buy up as many he and she slaves, especially young people, as can be got. No people in the world, however, do us better service than the Chinese. Send also a ship or two to Madagascar and the coast of Africa for slaves. There can be at first no better service done to the Company than in gathering a multitude of people from all parts to people our country withal. Hereby service and honour will be done to Almighty God, the Company shall grow the mightier in the Indies, the forts and garrisons shall be maintained without the Company's charge, and the profit of the inland trade shall then be employed in buying in of returns to be sent to our native country. . . . Let the buying in of a multitude of young slaves go forward before any other work."

On his arrival in Holland, Coen strongly pressed upon the directors the desirability of the promotion on systematic lines of the colonisation of the Eastern settlements with Europeans. Fired with his enthusiasm, the Company adopted his proposals, and decided to send him back to the East to superintend their execution. As a further indication of their earnestness on behalf of the cause, they shipped out to Batavia twenty Dutch maidens to be the wives of settlers. Before Coen himself had returned to resume the office of Governor-General, a practical beginning had been made with the new policy at Pulo Roon, where, on the capture of the island from the English, the entire population was transported to Java and replaced by discharged servants of the Company and other Europeans, to whom plots of land were given under an arrangement that they should be cultivated by slaves to be furnished by the Company, and that the products of such labour should be sold to the Company at a fixed rate. These plots of land were called "perken," or gardens, and the possessors

* "A true and Compendious narrative or (second part of Amboyney), of sundry notorious, or remarkable injuries, insolencies, and acts of hostility which the Hollanders have exercised from time to time against the English Nation in the East Indies, &c., and particularly of the total plundering and sinking of the *Dragon* and *Katherine*, both ships and men." By J. D., London, 1665.

* Calendar of State Papers, East India Series, No. 243.

"perkeniers."* In this way was introduced definitely, about the year 1626, the famous Dutch "Colonial system," which was for generations to form the subject of fierce controversy. Its establishment was, no doubt, largely facilitated by the remarkable prosperity of the Company at this period. Great profits were made as a result of the virtual monopoly of the spice trade which the Dutch enjoyed, and of the extremely lucrative Japanese trade which was carried on by the company. In illustration of the enormous fortunes realised by those interested in Dutch Eastern commerce at this period, the case of two notable Bewindhebbers, by name Poppen and Hermanson, who died in 1624, may be cited. These men, according to a letter† written from Holland at the time, "had raised their estates the one to seven, the other to eight tons of gold"—values approximating to about a million pounds sterling.

While the Dutch Company was thus in the condition of abounding affluence, which these facts indicate, their English rivals were struggling with a malign fate which seemed to deny them all hope of ever obtaining a permanent foothold in the East. We have pictures of them in their adversity sketched from time to time in the Dutch records. Thus, on Christmas Day, 1628, Coen writes exultantly, noting that at Bantam the English had only two yachts, and he contrasts this small force with the great one which they bragged of having prepared to bring out this year, "pretending they would do a great deal, wherefore they sounded all harbours in the neighbourhood unto Goa, and looked everywhere unto Mauritius, where their ships (probably to save expense) have passed the winter." "All this bustle," Coen went on to remark, "is an indication to us they intend to find some rendezvous. But, as is commonly said, the mountain has given birth to a mouse. They have only

cannot pay if they do not receive a large cargo next year from England." In another letter of a later date, March 18, 1629, Coen writes: "As we heard from some English officers the majority of English wished they had never come to Bantam, on account of the great troubles they had, and the little respect which is shown to them. Recently, at Bantam, in the evening, two Englishmen were murdered. These and all other offences they have to tolerate patiently from heathens and Moors without having any opportunity for redress. And these are the same people who make such a fuss about the bad treatment they had to suffer at Batavia. The English have had to pay from May, 1621, to January 21, 1629, import and export duty to the amount of 5,429½ Reals of eight. We give all impartial people to decide whether this nation has to complain of our duties, &c., least of our bad treatment."

Two years later, Antonio van Diemen, who succeeded Coen as Governor-General, in circumstances still to be related, mentions in one of his communications to the directors, that the English credit had fallen so low that "the factor at Jambi had been obliged to pawn his own jewels and valuables to find money to pay the duty on pepper shipped in the *Jara* (a vessel despatched to Europe in December, 1630)." The English, the writer proceeded to state, had been trying for some time to induce foreigners settled in Batavia "to leave that place and reside in Bantam, but many of those who had done so returned, complaining of having been sadly deceived." "The English," Van Diemen added, "are not much liked in Bantam, but they try to ingratiate themselves in the favour of the King by presents and services." Undoubtedly, the position of the English East India Company in the Eastern seas at this juncture was very precarious. The fact is indicated by the action taken in 1630 in "reducing the establishment at Bantam to an agency, and making it subordinate to the factory at Surat. The change was regarded by the Dutch with satisfaction born of the belief that the way was thus further cleared for the establishment of their monopoly. "If," said Van Diemen, "the Dutch can prevent them trading in cloves at Macassar, it will scarcely be worth while for the English to come so far south." These expectations of the Dutch of having a clear field were, however, not realised. In 1634, the English East India Company restored their establishment at Bantam to its old position, and gave it additional prestige by making the agencies in India subordinate to it. Meanwhile, the English factory at Macassar remained an irritating thorn in the Dutch flesh, to be extricated when the opportunity offered a good many years later.

The Dutch at this time had their own troubles. They had on their hands the apparently interminable warfare with the Bantamese, and graver difficulty associated with their position at Batavia. As early as April, 1620, there were indications of the coming storm. Depots containing large stores of provisions were established at various points, and reports associated them with the advance of an army. Coen, always energetic and resourceful, sent expeditions to destroy these supplies, and, meantime, made preparations at Batavia to resist the Javanese. Ere he had completed his arrangements, the Soosoochoonari's army was before the town. This was at the end of August. By September 11, the native force had carried its entrenchments to a point adjacent to Fort

Hollandia, and were dangerously close to the residential quarter. Observing this, Coen sent Antonio van Diemen in charge of 300 men to drive the enemy away. The duty was carried out, but the Javanese afterwards returned and re-occupied their old position. They were, however, unable



A JAVANESE OF THE LOWER CLASS.
(From Sir T. S. Raffles' "History of Java.")

to do much mischief, owing to the terrible ravages which disease and famine made in their ranks. At length, finding that no impression could be made on the Dutch position, the army retreated. The failure of this formidable Javanese host to conquer the handful of Europeans located at Batavia enormously enhanced the Dutch prestige in Western Java. From that period their power was firmly established and that of the Javanese sovereign began to wane.

While the Javanese, thoroughly demoralised, were retiring to the interior, the Dutch sustained a heavy blow by the death of their Governor-General, Coen was not in good health when the siege commenced, and his exertions in perfecting the defences left him thoroughly exhausted. He became seriously ill on September 20, and died the same night. He was buried two days later with befitting honours in the Stadthouse, as the church was burned down in the first siege and had not then been rebuilt. "So," says Meinsma, "ended the life of the man who had undoubtedly contributed most to establish the Dutch power in India permanently. The more his actions are known, the more the man must be admired, who, in the spirit of his time, strove with perseverance to achieve the end in view, and who had governed with tactfulness and acuteness in most difficult circumstances." This eulogy of the Dutch historian does not go beyond what justice demands from a compatriot. Coen did many things which were opposed to what the English of his day regarded as fair and right, and his entire policy, as his own writings show, was built on the aggrandisement of Dutch power irrespective of nice considerations of what was due to others. But he was undeniably a patriot, dominated by the one thought of how best to secure for his country the splendid heritage of



A JAVANESE WOMAN OF THE LOWER CLASS.

(From Sir T. S. Raffles' "History of Java.")

the *Jonas* and another ship with so little capital, that as they confess themselves, they had to borrow some FL.50,000, which they

*J. J. Meinsma, *Geschiedenis van de Nederlandsche Oost Indische bezittingen* (History of the Dutch East Indian Possessions), p. 55.
†Calendar of State Papers, East India Series, No. 678.

alliance with the Dutch at this period, for though, as will be shown, in 1634 the English broke away from the Dutch, the Treaty of Defence did not lapse until 1637.

Nothing is more singular in the early history of the Eastern trade than to find that while in one part of the field of action embraced by the two Companies' operations, the Dutch and English were indulging in acts of war against each other, in another part of the same field they were co-operating amicably if not over cordially for the furtherance of common ends. A striking instance in point is furnished at this juncture when we see on the one hand the English factors in Macassar identifying themselves with the enemies of the Dutch, and, on the other hand, the English and the Dutch at Surat joining in a contract not to buy indigo excepting at a price fixed by mutual consent. The explanation of this paradoxical situation no doubt is that though, in the case of both companies, the entire Eastern trade was nominally under one head, it was really of a dual character. There was the spice trade, and the Chinese and Japanese trade centring at Batavia or Bantam, and there was the Indian trade embracing commercial operations in the Persian Gulf and the Red Sea, with headquarters at Surat. The English were almost from the first strong at the Western India seaport, and the Dutch were there as bad a second as the English were to them East of the Straits of Sunda. The Dutch strove strenuously to reduce the inequality on the Indian peninsula, and their representatives spoke in very different accents to the English company's officials to what were used by the Batavian Government to the same company's representatives in the latitude of the Spice Islands. The indigo contract was in a sense a concession extorted from Dutch weakness. "Although," says the Dutch Company's agent in a letter to his employers, "we were not very eager in the matter of this contract knowing from experience how fond the English are of picking a quarrel, we had to choose the least of two evils, for, had we refused, the English would have pushed the trade at any cost and we should soon have found ourselves left out in the cold." Nevertheless, it was hoped that the arrangement would answer, more particularly as William Methwold, the English president, was a pleasant and affable man, "very friendly with the Dutch, having spent many years in the Netherlands, and having learnt to know and appreciate our nation." However, these expectations were far from being realised. The indigo contract did not work because of a lack of confidence on either side in the fair dealing of the other. The Dutch trade generally suffered from the action of the English and the Danes in importing cloves from Macassar and flooding the market with them to the prejudice of the Dutch products. "Meanwhile," observes Phillip Lucas, an old and valued servant of the Dutch Company, in a report which he made to the directors, "the English get daily a firmer hold in India. For many years we have tried with all our might to secure to ourselves alone the trade, but we find that wherever we go the English are sure to follow." The writer goes on to denounce in bitter language two Dutch interlopers who had helped the English in the matter of the pepper trade, and to suggest that as these men were "a source of great danger to the Company" it might be well to gain them over to the Dutch cause by giving them a fixed residence at Batavia.

"India," added the writer, cynically, "is overrun with vagabonds who live at the expense of the Company, and one or two more will not make much difference." It was, however, in Lucas's view by an alliance with the English that the Dutch could best promote their interests. Such an understanding, he asserted, would be the surest guarantee for the prosperity of the Dutch trade in India.

As far as the maintenance of warfare against the Portuguese was concerned, the English and the Dutch still acted together under the Treaty of Defence at this period. Both got into hot water with the native authorities at Surat in 1634 because of the energy with which the operations were pushed. On New Year's Day, two Dutch vessels, homeward-bound, encountered just outside Surat a Portuguese flotilla conveying a fleet of native trading vessels to Cambay. An attack was delivered in which some English ships joined, and two ships were captured by the Dutch, one by the English and a fourth was blown up. The sequel is described in a despatch sent home by the Dutch representative at Surat:—

This second exploit raised the Governor's anger to the highest pitch. He forbade the sailing of the English vessel, *Mary*, which was ready for the voyage to England with indigo, and prevented our caravan with spices leaving for Agra till the vessels and the goods had been restored to the owners." The writer concludes with some sage reflections on the impolicy of exciting the resentment of the local native authorities by high-handed action. "The surest way to establish our trade," he says, "is by treating the Governors with due consideration and secure their good will by suitable presents. It is a great mistake to treat them with arrogance as we have no real power in these countries and no redress, whilst the Governors can always vindicate any real or pretended affront by laying an embargo on the Company's property. Complaints to the King are of no avail and only increase the ill will of the Governors."

There was the greater reason for adopting mild courses at this period as the resources of the Dutch Company were strained to an extreme degree by the enormous burden cast upon them in protecting their interests. The



A STREET IN MACASSAR (CELEBES).

(From Terwogt's "Het Land van Jan Pieterszoon Coen.")

"When the Moorish Governor was informed of these proceedings he was very angry, called the English and the Dutch pirates and thieves and ordered the vessels and their cargos to be restored at once under penalty of making both Companies answerable for the damage done. One director, Jacob van der Graaf, in vain explained to the Governor that the Portuguese were our sworn enemies, that we were commanded by our Prince and the States General to molest them whenever we had a chance, that the Portuguese had attacked the Dutch and the English vessels even in the river of Surat, without any notice having been taken of their animosity or any restitution made to us for loss sustained. The Governor persisted in his demands and it was resolved to content him, restore the Moorish vessels and their cargos and release the Portuguese prisoners. In the meantime the caravan, consisting of about sixty vessels came again in sight of Surat on the 21st January, and the Dutch and the English made another attack on them with the result that eight vessels, Moorish and Portuguese, were brought into the docks.

operations in Java in particular had disturbed the finances. Not only had the exchequer been greatly depleted for the construction of fortifications and the provision of war material, but the income had dropped to an alarming extent owing to the cessation of cultivation. Lucas, who returned to Holland in 1634, after many years' service, drafted for the information and instruction of the directors an able report in which he surveyed the whole field of the Company's operations. From this, it is to be gathered that the general expenses at Batavia for forts, garrisons, ammunition, hospitals, and maintenance of the Company's officials amounted to Fl. 283,500 15 10; the pay of soldiers and servants involved the expenditure of a sum of Fl. 207,010 15 10 and presents made during the year figured at Fl. 1,285 15 14. Therefore, the total expenses of the station were Fl. 581,803 7 2 (£48,100). The receipts are put down at Fl. 621,570 6 7; but this sum no doubt refers to the year before the siege of Batavia by the Soesoehoonan's troops. Appended to the report is a balance sheet showing the position of the Company at all

* MSS Dutch Records at The Hague, Vol. X.

its factories at the end of the year 1633. The total capital involved is put down at £416,000, and the annual exports to the Netherlands are estimated at £1,500,000 in value. Lucas regarded the prospects of the Company very hopefully. As for Batavia, in spite of the cloud which overshadowed it, he firmly believed "that in time and by good management it will become one of the richest colonies." Lucas, however, was shrewd enough to see that the restrictive system of trade followed by the Company would not allow of the attainment of the best results. He expressed the opinion that if more liberty were granted to private merchants to trade on their own account the prosperity of the general Company would be much increased. The Company, while extending considerable privileges to free burghers, should, he suggested, reserve the exclusive trade from China to Japan, the coast of India and the trade in spices, in pepper, and in cloths. Under this system, he pointed out, "private traders would bring to Batavia many kinds of merchandise which not being of great value were overlooked, but which would help to complete cargoes for several destinations."

In this way, he added, the trade with China would be improved without extra capital from the Company. There was sound common sense in these recommendations, and if they had been adopted the position of the Company would have been very different to what it ultimately became through the pursuit of a narrow policy.

It was not alone from its high officials that the Company received advice at this time. To the directors at Amsterdam was tendered by a Dutch seaman, named William Verstegen, a novel proposal for the refilling of the exhausted treasury. Premising "that although in the beginning Almighty God created the earth and made division between the elements and the islands, not all the parts of the earth are known," the writer went on to describe a certain treasure island encountered a considerable time ago by a vessel from Manila to Nova Hispania to the east of Japan at a distance of from about 380 to 390 miles from the coast at the latitude of about 37½°. This island was inhabited by "a people of fair skin, well proportioned limbs, and most friendly and affable." The shipwrecked crew remained some time on the island, and when

they put to sea again the people provided them with "the most ample and luxurious provisions." "The crew reported wondrous tales of that island. It would seem that gold and silver were so plentiful that the kitchen utensils and other articles were made of these metals." "What a blessing," exclaims the writer, "it would be for the Company to find that island who have so much trouble to find the money for their commercial ventures." Nearly three centuries have elapsed since this curious epistle was penned, and this wonderful treasure island still remains to be discovered.*

* The fable of the existence of an island of gold was one which had a powerful influence on the European mariners in Eastern seas in the seventeenth century. Another form of it is to be found in the writings of Dr. Careri, a Portuguese author. The story related by him was that an English ship having been driven to take shelter from a storm in the Nicobars, a native who had taken some fresh water on board the ship spilt some on the anchor, the iron of which was turned into gold wherever the water had touched it. The crew, after they had learned from the native that the water came from a well in the island, killed him. According to Careri, the Dutch, hearing of the legend, hastened to take possession of the island.

CHAPTER X.

Continuance of the Dutch Operations against the Portuguese—Attack on Ceylon—A Settlement established at Batticalao—Capture of Negombo—Armistice concluded between the Dutch and the Portuguese Governments—Disputes between Dutch and Portuguese in Ceylon—Renewal of Hostilities—Massacre of Dutch in Cambodia—Maatsuycker's Mission to Ceylon—Disputes with the English at Bantam—Acquisition of the Cape by the Dutch—Capture of Colombo and Jaffnapatam—Dutch Settlement Policy—Alliance between the English and the Portuguese—Dutch Campaign in Southern India.

FOR a considerable number of years the Dutch policy and actions in the East were dominated by their feud with the Portuguese. This was prosecuted with a resourcefulness and a sustained energy which effectually crippled the power of Portugal, and, in time, all but obliterated her once lucrative trade. In 1634, the English made peace with the Portuguese, much to the disgust of the Dutch, who recognised that while, on the one hand, the secession of their quondam allies would make the task of suppressing Portuguese commerce more difficult and expensive, on the other it would give their trade rivals an advantage in freeing them from the necessity of maintaining a considerable force in India. The Batavia Government realised that the changed conditions rendered it incumbent upon them to make a special effort to display their power, and it was resolved to despatch a large fleet to blockade Goa. In due course, in the closing months of 1636, an imposing flotilla appeared off the Portuguese capital intent on preventing the despatch of the usual galleons to Europe. This was the first of a long series of expeditions sent annually to the coast of Western India. The Portuguese struggled gallantly to free themselves from the toils which were closing around them and crushing out the life blood of their trade. On January 4, 1638, a brisk action was fought between the Dutch fleet under Adam Westernholdt and a Portuguese squadron consisting of six galleons and twenty smaller craft under

Admiral Antonio de Felles. So vigorous was the attack that in a short time the Portuguese had destroyed two of the largest Dutch



HENDRIK BROUWER, GOVERNOR-GENERAL, 1632-36.

vessels and fired a smaller one. They were eventually driven back, but the taste they had given of their mettle greatly disconcerted

the Dutch, for they had not anticipated from their former experience such reckless courage as was displayed by the attacking fleet. The blockade, however, was continued until the approach of the south-west monsoon made withdrawal necessary. From Goa, Westernholdt turned his attention to Ceylon, upon which longing eyes had been cast by the Dutch ever since they had entered into relations with the King of Kandy. Quitting Goa on April 22, Westernholdt arrived off Batticalao on May 10 with a squadron of four vessels. He came at an auspicious moment, for the Portuguese had sustained a series of bad reverses in fights with the Sinhalese, and were greatly demoralised in consequence. A strong force under the command of Vice-Commander Coster, composed of 300 soldiers and a number of sailors, was landed on May 11, and this proceeded to entrench itself. On the following day, Rajah Sinha, the King of Kandy as he was called, made his appearance with an army of 15,000 men. Six days later, the attack on the Portuguese fort was delivered. After a four hours' fight, the garrison, which numbered 700, including 50 Portuguese, surrendered, and a Dutch garrison of 105 soldiers was established in the position. This conspicuous success—the beginning of the permanent occupation of the island—was hailed with satisfaction at Batavia, and it encouraged the Government there to equip another fleet of eleven vessels, with a total complement of 1,215 men, to prosecute the operations against

the Portuguese further. The Dutch were the more disposed to enter upon this new venture because all the reports they received told of the growing enfeeblement of the Portuguese. The position is vividly sketched in a report* made by Van Diemen to the directors on December 22, 1638.

"The commerce of the Portuguese," observed the Governor-General, "is at the present moment in a very bad condition and if the Almighty deigns to bless our efforts the whole of the coast of Malabar will soon be in the power of the Company. We also hope to get a secure footing in Ceylon and with the assistance of the King of Achin to secure Malacca. This is the propitious moment for the expulsion of the Portuguese from India, but we must be adequately provided with men and ships.

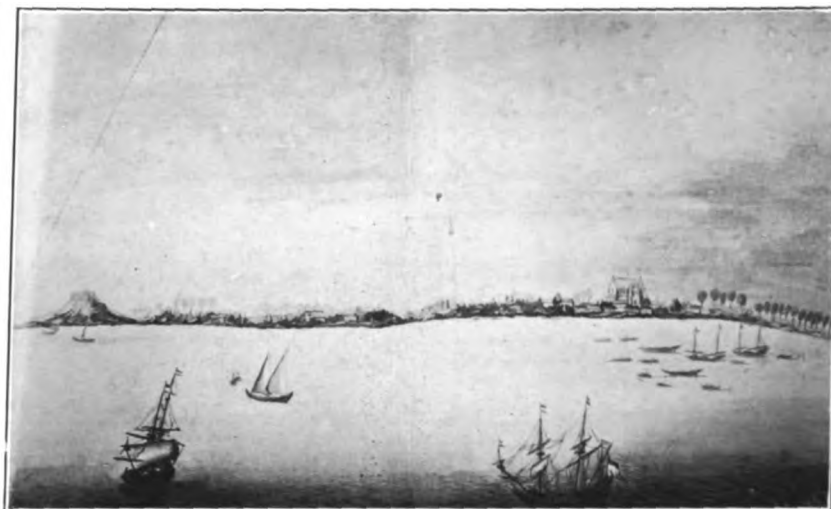
"Letters written by themselves and which are enclosed will convince you of their miserable position. In one addressed by an eminent personage in Goa to Louis Martin de Soysa it is stated that unless considerable assistance be sent from Lisbon they are entirely ruined and the settlements must fall into the hands of the Dutch."

Van Diemen added some interesting reflections on the general position of trade at the period. "It is disheartening," he wrote, "to find that the English and other nations profit by obtaining large quantities of pepper for the European markets. If they would only gratefully acknowledge the chance we give them we might say nothing, but they try in every way to work against us and impede our progress."

Referring to a rumour that the King of England intended to free the trade to the Indies, the writer said that in his opinion it would be better for the Dutch Company "if

petition is more severe, we shall not have to fear any combination amongst our enemies, and we can more easily bring them to submission. No European nation besides ourselves admitted to the trade in pepper

"we still shall do them as much harm as possible, and continue to establish more firmly the possessions of Your High and Mighty States General in the East. We have been very successful of late in these



POINT DE GALLE.

(From an old drawing preserved at the State Records Office, The Hague.)

on the West Coast of Sumatra, the spices are mostly in our hands, and Batavia increases daily in prosperity. All the merchandises from the Malay Archipelago are being brought to her market: so that whoever comes for trade to these Southern shores will return empty handed, or pay such excessive prices for their purchases that it will not pay to bring them to Europe."

Van Diemen's sanguine survey of the prospects of the Company was, on the whole, justified by events. In 1639, the conquest of Ceylon was advanced a further stage by the capture of Negombo, and an even more important advantage was obtained in the following year when Point de Galle was occupied, as the sequel to a sharp fight. After the last-named victory, there was a check to the Dutch operations, and we read of the Portuguese having recaptured Negombo and of their laying waste the country around the Dutch position and of their offering inducements to the garrison to desert—inducements which appear to have attracted "two Scots," who are mentioned as having "gone over." After this, proposals were made by the Portuguese for peace, but they were firmly rejected, and arrangements were made for the prosecution of the war with redoubled vigour. Malacca fell an easy prey to an expedition sent against it from Batavia in 1641, and there were hopes of other conquests being made. Much, however, to the disgust of the Batavia authorities, the Dutch Government at home concluded, on June 22, 1641, an armistice, to extend over a period of ten years, with the Portuguese, who, in the previous year, had freed themselves from their subjection to the Spaniards, and had, therefore, established a sentimental claim to more liberal treatment on the part of the Dutch. Van Diemen, in writing relative to the arrangement on December 12, 1642, noted that the Portuguese were very pleased at the conclusion of peace on account of their poor condition in India. "However," remarked the Governor-General significantly,

attempts. In August of last year we captured the fortress of Piachio in Ternate, and in Amboina the stronghold of the rebels at Cambello, and in the island of Quelaugh the Spanish fort St. Salvador, all places of great importance, especially Quelaugh, not only as establishing the supremacy of the Dutch in the island of Formosa, but giving us the opportunity of bringing millions of heathens to the knowledge of the religion of Christ."

Animated by the spirit disclosed in this communication, it is not surprising that the Dutch soon found causes of disagreement. There was trouble at the outset over the terms of the rendition of Negapatam, which had been captured by the Dutch Goa fleet before the news of the armistice was received. A sum of 50,000 reals was promised as indemnity, but only 10,000 was paid, and an intimation was given that if the balance was not speedily forthcoming the war would be renewed. More serious trouble arose in connection with the occupation of captured posts in Ceylon. Commissary Borel, the Dutch chief, demanded the evacuation of the low-lying lands about Point de Galle in accordance with an article of the Treaty. But General Mascarenhas "haughtily refused to comply, alleging that the jurisdiction of Galle was confined within its walls." In consequence Borel proceeded to Goa in order to make a direct appeal to the Viceroy. He was received with every token of respect and courtesy. A magnificent house was placed at his disposal. His meals were served on gold and silver dishes, and he was waited upon by Knights of the Cross. But as far as the direct business in hand was concerned, Borel found the Viceroy obdurate. On his own responsibility, Borel proposed as a compromise that the country around Galle should be divided into two parts one to be occupied by the Portuguese and the other by the Dutch, and that the question should be left for settlement in Europe. But this suggestion was met with an absolute refusal. On Borel, as a further



GOVERNOR-GENERAL, 1636-45.

free trading were allowed promiscuously, instead of a new company being constituted with an exclusive charter. Even if the com-

* MSS. Dutch Records at The Hague, Vol. XI

point, contending that the King of Kandy should, in virtue of the third article of the compact, be included in the list of sovereigns with whom the signatories were at peace, he was told that the article was

on Colombo failed, but a strong Dutch garrison was established in the fort and an important *point d'appui* was thus secured. The Portuguese, recognising the value of the position, made strenuous efforts to

says Maatsuycker in a letter to Batavia,* "we encountered a fearful hurricane, and we were afraid of being driven towards the point of the Southland,† which juts out about there, and resolved to alter our course again to the north and return to Bali and await there the easterly monsoon. Luckily the wind changed, and we fell in with the trade winds. Our voyage was continued, and we reached Ceylon on the 21st of last month."

Maatsuycker found affairs in a very disorganised state in Colombo. He set himself to straighten things out. His reports to headquarters read amusingly. Thus he tells the Council that Thyssen's fault seemed to have been "a kind of laxity and want of supervision. We found the stores very badly stocked and the goods badly spoiled. The fault was attributed to Mrs. Vinck. Her husband seems to have been very remiss in his duties, and left everything to her. She did with the things as she pleased. The Governor either ignored their bad management or overlooked it." Maatsuycker, however, soon had matters of graver import to occupy his attention than the delinquencies of Mr. and Mrs. Vinck. About the middle of the year the Dutch forces sustained a severe reverse near Negombo at the hands of the Sinhalese. A good many soldiers were killed, and sixty were taken prisoners to Kandy. Maatsuycker in reporting the occurrence observed: "The Portuguese chuckle over our defeat in secret, but since we have been able to hold our own a change has already become apparent." Some time before this there had been a suspension of hostilities between the Portuguese and the Dutch in consequence of instructions from the States General, who were by no means inclined to accept the necessity for the renewal of the hostilities which followed upon Borel's abortive mission. Maatsuycker was haunted by the fear that the States General might give their sanction to the Portuguese demand for the restitution of Negombo. "The loss



DUTCH FORTIFIED POSITION AT NEGOMBO (CEYLON).

(From an old drawing preserved at the State Records Office, The Hague.)

"not applicable to heathen potentates, but only referred to faithful Christian rulers." "There being none such in India," observes Van Diemen, "this answer will sufficiently show you the impertinent arrogance of this haughty, and at the same time powerless nation."

Thus the war between the Dutch and the Portuguese was renewed, despite the armistice. One of the earliest steps taken in the new operations was the despatch of a blockading fleet to the familiar cruising ground off Goa. This step, with the necessity enforced of pursuing an active campaign in Ceylon, left the hands of the authorities at Batavia very full. But in the midst of their preparations came the unpleasant tidings that the Company's staff at Cambodia had been all murdered, and the factory sacked by the command of the King. This outrage could not be left unavenged, and immediate orders were given by the Council for the preparation of an expedition under the command of Captain Hendrick Harmse to exact satisfaction. The enterprise, unfortunately, completely failed of its object. Captain Harmse's ships got involved in a trap in the river, and it was only by great exertions and considerable loss of life that the expedition was brought away. In one of the actions, Captain Harmse himself was killed, and there were 120 other fatalities in the Dutch force. This was a serious reverse, but it was counterbalanced to some extent by the success achieved in Ceylon by a fleet, despatched from Batavia in September, 1643, under the command of Francois Caron. Landing a force at Negombo, Caron re-captured that important position. An attack

re-capture it, but after a siege of two months Don Phillip, the Portuguese commander, was obliged to withdraw his army, defeated and disheartened, to Colombo. Afterwards the Dutch lines were visited by Portuguese priests, who were intent on gathering together the scattered remnants of their flocks. The clerics implored the assistance of Maatsuycker, the Dutch commander, and asked to be allowed to remain at Negombo for this purpose, but, says Van Diemen, in one of his letters home, "of course it could not be allowed, and we think that the converts, finding no more food provided, will not be very anxious to frequent the Churches. This will show what kind of Christians the Cingalese are. Still, it will be expedient to continue teaching them the true faith. We shall appoint a couple of clergymen and visitors to the sick; the making of Christians would not only be a matter of Christian charity but also good policy." Subsequently, the Dutch interests in Ceylon suffered considerably owing to the ill-advised action of the Governor, Van Thyssen, who, owing to some differences with the King of Kandy, declared open war against him. Ultimately, Van Thyssen was recalled, and Jan Maatsuycker was sent to replace him.

Quitting Batavia on May 23, 1646, Maatsuycker had an eventful voyage. Following instructions, his fleet of three vessels took their course eastward in the hope of making their voyage shorter by crossing the Strait of Bali. They had been led by Commanders Abel Tasman and Martin de Pries, to expect that they would encounter the trade winds, but were driven eastward. "At Lat. 15 and 16 S.,"



CORNELIS VAN DER LYN,
GOVERNOR-GENERAL, 1645-50.

of Negombo," he said in one of his letters, "would be a heavy blow to the Company. The restitution of a greater part of the lands

* MSS. Dutch Records at The Hague, Vol. XV.
† Australia.

about Galle, which is also prescribed in the provisional contract, would leave us nothing worth having in Ceylon. In these circumstances it would be the best plan for us to take ourselves away from the island, abandoning our claims on the King and forget we ever made an attempt to settle there."

By his energetic measures, Maatsuycker naturally strengthened the Dutch position in Ceylon, both politically and commercially. The cinnamon trade was greatly developed, and attention was also given to the breeding of elephants as a possible source of future revenue. All this time, a jealous eye was kept on the Portuguese, and no opportunity was lost of gaining an advantage at their expense. The Portuguese made complaints of Maatsuycker's high-handed measures, but the representations had little effect in mitigating the position. Conscious of the weakness of the old enemy, Maatsuycker was very anxious to declare war and put an end altogether to the Portuguese dominion on the island. The Council, however, did not consider that an adequate *casus belli* existed, and, moreover, they were of opinion that the proposal was "too premature." The Portuguese power at this period was at a very low ebb, not merely in Ceylon, but throughout the East. Describing the conditions of affairs in India, Otto Hoockgeest, the Dutch Company's representative at Vingurla, near Goa, notes that the position of the Portuguese was generally getting from bad to worse. "Their soldiers," he wrote, "are small boys of 12 and 13 years, who swagger with a sword at their sides. Most of the older ones are deserting. Everyone for himself seems the motto at present. The time seems to have come for us to take revenge of their treachery in Brazil. If the Company would take possession of Goa, all the other places would surrender without an attempt at defence, and the whole coast would soon fall under the sway of the Company."

The pear was certainly ripening for the gathering, but the end was not quite yet.



CAREL REYNIERSZ,
GOVERNOR-GENERAL 1650-53.

Apart from the decay of the Portuguese strength, the Dutch had much to congratulate themselves on at this time. The rivalry of the English, which for so many years had troubled the Dutch officials, was year by

year lessened as the internal troubles in England arising out of the Parliamentary conflict became more pronounced. There was a little breeze in 1642 over the overhauling by the Dutch of the English ship *Reformation* whilst she was on her way to Japara. The

wishes were no doubt received in the spirit in which they were tendered; but the English position at the time was too unsatisfactory to be affected by any such friendly manifestations. "We have no trouble with the English," wrote Van Diemen, under date



COLOMBO IN THE SEVENTEENTH CENTURY.

(From an old drawing preserved at the State Records Office, The Hague.)

incident evoked an indignant letter from the English president at Bantam, telling the Council at Batavia that "notwithstanding your paramount power in these parts where your will serves you instead of a lawe we shall not doubt but our masters at home will find both opportunity and occasion to require satisfaction from you" and advising the Dutch officials that they "would doe well henceforth to forbear such hostility towards us." "Rather," added the writer in a pious outburst, symptomatic of the Puritanical influences at work at that period, "Rather make conscience and religion the rule of your actions and thinke it not a Christianlike parte (because you see we are here unable to equall you in forces) thus insolently to exult over us." Replying to this "irate letter," the Dutch president explained that the English ship had been overhauled in order to secure the persons of some Mahomedan priests who were taking passage by it for the pilgrimage to Mecca, these individuals being required to exchange for Dutch prisoners who were kept "in the vilest bondage" by the Soosoooonan. Nothing further seems to have been done in reference to this incident, and when a year later a new English president came out to Bantam, the Dutch Governor-General availed himself of the occasion to send a cordial letter offering him congratulations on his appointment. "As a small token of our friendship," he said, "we beg you to accept a small cask of Rhenish wine which we forward with the present and asking you the protection of the Lord, whom we pray, to guide you in the duties you have undertaken and give you wisdom and understanding and bless your endeavours to work for the good of your Company, for His great name and your own honour." The kindly expressed

February 6, 1645. "They provide us with English beer which seems the principal lading their vessels bring from England." In another communication written in July of the same year by Cornelis van der Lyn, the Dutch representative at Surat, and Van Diemen's successor in the Governor-Generalship, we have this singular story illustrative of the demoralising influence of the internecine conflict in England.

"The vessel *John* which sailed from England in April of last year has been run ashore by her captain on the island of Asnary, between the island of Madagascar and the mainland. He pretended to do this for political reasons, holding for the King against the Parliament. He invited some of those who disagreed with him to dine on shore and ran away without them. It is said that he is now a pirate in the Red Sea. The men left on shore have been taken on board the *Thomas and John*, one of the new Company's vessels, and conveyed to Moerabeth from whence they have been brought to Surat in the *Valkenburgh*. The loss of the *John* is a great blow to the old Company. She had very rich lading and £1,100,000 (£13,333) in ready cash."

With Cromwell's accession to power the affairs of the English East India Company brightened, but the outbreak of war between England and Holland in 1652 had in places a serious restraining influence on the Company's trade. This year was otherwise an important one in Dutch Colonial history, for it marked the acquisition by them of the Cape. For a great many years, indeed from the earliest days of the Eastern trade, both English and Dutch vessels had frequented Table Bay and watered their ships and

• MSS. Dutch Records at The Hague. Vol. XIV.

recruited their crews in this salubrious locality. In 1620, Captains Andrew Shilling and Humphrey Fitzherbert, of the English East India Company, on their voyage out met a Dutch fleet in Table Bay, and, hearing that they had decided to form a settlement



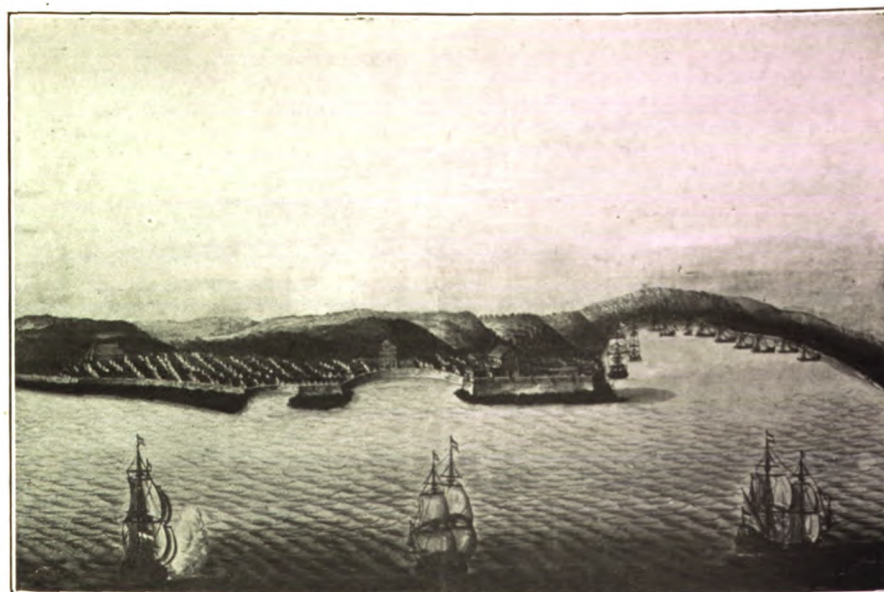
GOVERNOR-GENERAL, 1653-78.

there, resolved to anticipate them. With this intent they landed, and, hoisting the English flag, formally took possession of the territory in the name of King James. No steps, however, appear to have been taken to make the annexation effective, and the Cape continued to be frequented by mariners of all nations until 1652, when an expedition was sent out from Holland, and on April 6 in that year took possession of the region in the name of the Dutch Government. A protest was subsequently made by the English East India Company against the action taken, but it was disregarded, and the Cape settled down to the ordinary life of a Dutch colony of the period.

South Africa, however, at this juncture was not so conspicuous in the calculations of Dutch policy as Ceylon and India. With the lapse of the armistice with the Portuguese, a vista of conquest was opened up which had a fascinating interest for the shrewd far-seeing officials who were the instruments for the execution of the aggressive Dutch designs. When the curtain once more lifts on the scene in Ceylon, at the end of 1652, we find Carel Reyniersz, who was at that time Governor-General, writing to the directors on the situation on the island. Rajah Sinha's policy "is to coquet with both sides, to keep them evenly balanced against each other. He is well aware that he cannot get rid of both and, therefore, divides his favours between us by turns." Sometimes the claims he made upon Dutch complacency were excessive. "Lately he has again insisted on our giving him the title of 'Lord God' as his subjects do. He has written to the Government about it, pleading that it is not against our laws and institutions." When the Portuguese found that

war was to be renewed, they withdrew their forces from outlying stations and concentrated them in Colombo. The Dutch on their part entered upon the contest with a full understanding of the importance of the prize which was almost within their grasp. "The conquest of Ceylon," observed Reyniersz in a letter to the directors of the date January 31, 1653, "will be one of the most important events in the history of our Company. The Portuguese consider the island one of their most valuable possessions and would rather lose all the other places they possess in India than yield this." For a time operations were considerably hampered by a serious rising in the Moluccas, to which extended reference will afterwards be made, but in the middle of 1655 the authorities at Batavia felt themselves strong enough to despatch a fleet with a considerable force under Hulst to prosecute the campaign with vigour. On November 22, an attack was delivered on the Colombo position, but it was defeated with heavy loss to the Dutch. Reinforcements were sent from Batavia and the siege was pressed with renewed energy. On April 9, 1656, Hulst was killed by a cannon ball. This untoward incident had a discouraging effect temporarily. But on May 11, a grand assault was delivered and proved entirely successful. After a siege of six months and twenty-seven days the town was transferred to the Dutch. The sufferings of the population must have been intense. "Dead bodies were lying in hundreds about the streets," says the Dutch report on the occurrences, "and the stench was unbearable. Unfortunately, after the surrender discipline could not be maintained among our soldiers. We fear the officers encouraged pillage, but as it contravened one of the clauses in the contract (for the surrender) we much regret this blot on the honour of the Company." Not content with the conspicuous triumph achieved

On the arrival of the fleet at Goa, an English ship was found in the harbour there. The captain willingly submitted to search, but declined to lower his flag; whereupon the Dutch sailors hauled it down. "This," said the Governor-General, writing from Batavia, "we think a piece of unwarranted bravado, and have given orders in future that such occasions of giving offence shall be avoided." Afterwards, another English vessel tried to pass up the river, and, as she refused to stop, shots were fired across her bows, and she was taken charge of by the Dutch. These episodes did not tend to improve the relations of the English and the Dutch, and they helped to pave the way for the alliance between the English and the Portuguese, which some years later was a source of much anxiety to the Dutch. Nothing of importance resulted from the Dutch operations before Goa in 1656, and the blockade was resumed in the following year. The Portuguese fought so determinedly to drive the Dutch ships away that early in 1658 it was deemed advisable to send a large reinforcement. Ultimately the Dutch fleet was able to bring 352 heavy guns to bear upon the enemy, and the total complement of the ships was 1,100 men. Even this very considerable force failed to make any distinct impression on Goa, but in Ceylon the Dutch achieved a signal victory on June 23 by capturing Jaffnapatam, the last stronghold of the Portuguese on the island. In a communication recording the event, Ryckloff van Goens, the Dutch commander, stated that 3,500 persons emerged from the garrison, the number including 800 Portuguese, 200 white women, 300 armed natives, 600 natives from Malabar, 300 slaves male and female, and 1,200 sick people. The Dutch attacking force consisted of only 1,000 men and about 70 Amboinese, so that Van Goens had every right to be proud of his success. The details he gives of the siege are very curious. He



VIEW OF CANNANORE.

(From an old drawing preserved at the State Records Office, The Hague.)

in Ceylon, the Dutch Council, in September, 1656, despatched another fleet to blockade Goa. Before this, in 1654, peace had been made with England, and no doubt the Batavian authorities felt on that account the freer to undertake the enterprise.

mentions that the Portuguese made many complaints of their methods of warfare, and in particular were aggrieved because the Dutch used large pebbles and flints as shot in their mortars. "We only mention this," said Van Goens, "to make you see the neces-

sity of placing as ballast in the vessels sent to Ceylon as many pebbles as possible as they are fearful engines of destruction. They were hurled from our guns on the roofs of the houses, and went through the floors bringing them to the ground. . . . If you would wish to judge of the effect it would be easy to do so. The mortar should be filled with stones weighing from 16 to 24 pounds and shot out to a height of from 9 to 15 degrees. There is absolutely no danger in working the guns, and you will be surprised at the force with which the stones are ejected. . . . We prefer the throwing of stones much above that of grenades: 200 shots from our largest mortars required only 500 pounds of powder and made more havoc than 3,000 shots with cannon balls, for which at least 3,000 pounds of powder would be necessary."

Another amusing passage in Van Goens' report has reference to the disposal of the prisoners. From the permission freely to leave the Castle at the capitulation, he stated, "we have excluded the best looking widows and daughters and orphans to give in marriage to our soldiers. Living being very cheap here, I would suggest that the married soldiers should be paid monthly here and at Manaar, which would save the expenses of their keep. The same might be done with unmarried soldiers, which would induce them to get married and lead more regular lives."

Van Goens was not singular in his opinion as to the value of marriage as an agent in the promotion of Dutch interests. Adriaan van der Muyden, the Governor of Ceylon, on September 20, 1665, sent home a report embodying proposals for a regular system for the promotion of marriage amongst the Company's servants. He suggested that "in order to improve the character of our staff . . . some respectable young girls should be induced to expatriate themselves and settle in these places where the Company has to keep garrisons and where living is cheap." "They should," he continued, "be restricted to homely and simple ways, not be allowed to wear jewels, or, in default of that the carriage of these should be taxed. Farmers and artisans or field labourers would be most suitable. They might receive a grant of land, mix with the natives, and in this manner teach the latter our language. . . . Some of our higher officials might also be induced by the grant of some privileges to remain in India and invite some of their friends and relatives to join them. In the course of time these might intermarry with the daughters of the nobility of the island. The natives educated in our Dutch schools might also match with some of our poor Dutch girls, and these matches would prove the best means of strengthening our influence."

The fall of Jaffnapatam was a heavy blow to the Portuguese, and it seemed that it was the forerunner of the complete disappearance of the Portuguese dominion in the East. The Portuguese troubles at the period were greatly increased by the war with Spain, which was attempting to reconquer Portugal. A despairing letter from the Portuguese

Viceroy at Goa to the King of Portugal, dated December 18, 1658, fell into the hands of the Dutch. "We feel it our bounden duty," wrote the depressed official, "to acquaint you with the position of affairs in India and to inform you that unless we are properly assisted the whole of your Majesty's possessions will be lost." Another letter which was secured was from the Queen of Portugal to the Viceroy announcing the forthcoming marriage between the Princess Infanta and the King of France, and adding: "There is also a prospect of a marriage between the daughter of Cromwell and my dear son, Don Alfonso." The Queen intimated that the King of France and Cromwell had promised to use their influence in bringing about a cessation of the hostilities between the Dutch and the Portuguese. Desperate as the straits of the Portuguese were there was still some fight left in them. Moreover, a change for the better in their prospects came in 1661, in consequence of the marriage of Charles II. with the Infanta of Portugal. The news reached the Dutch in the East *via* Amsterdam in the startling form that in addition to a large sum of money Charles had received as a dowry with his wife the towns of Goa and Macao. There was some relief later when it was discovered that it was not these towns which had been handed over, but the then sparsely inhabited and commercially insignificant island of Bombay, in Western India. Still, even in its modified form, the intelligence was unpalatable enough, and Van Goens was constrained to write home that the alliance had had the effect of rendering the Dutch designs "almost impracticable." His chief concern at the time was with the conduct of warlike operations against the Portuguese in Southern India. After a series of successful raids along the coast, Van Goens had, at the end of 1661, landed at Cochin with two thousand men with the intention of capturing that town. The Rajah, "a usurper supported by the Portuguese," had shut himself up in his palace with his brothers and heirs and the wife of a former Rajah. They were called upon to surrender, but declined. The attack was then delivered. The Nair guard defended the position desperately, but their efforts were vain, and the position was ultimately captured. When this success had been achieved, Van Goens ordered that all persons of the male sex should be cut down, as he had been three times tricked by the display of a flag of truce. "A young officer went into the Palace at great risk, and brought out the old Queen. As soon as she had been got to place of safety," says the Dutch narrative, "the Commissary sent to her to inquire as to her wishes in regard to the other occupants of the Palace. She expressed a wish that the usurper and those belonging to him should be killed. This desire agreed fully with our plans, and a fearful massacre followed. It lasted till the evening. To the few who remained an offer of surrender was made, which was proudly refused by the greater number." Among the killed was the late King and two of his brothers.

The victory was a notable one, but the town still remained in the enemy's hands, and Van Goens soon found that he had thrust himself into a veritable hornet's nest. The Nairs, a warlike tribe, harassed his troops, and it was only by continual skirmishes that they were kept at arm's length. Moreover, the enemy behind the fortifications in the besieged town were in great strength, and fought with determination. In a short time the Dutch had lost some of their oldest captains and most experienced soldiers. But Van Goens declined to entertain the question of raising the siege. "We cannot withdraw now," he wrote, "this beautiful town *must* become the possession of the Company." In the end, however, the Dutch commander had to withdraw his troops. It was a bitter disappointment, as he saw great future possibilities in this Southern Indian town, which, while it remained under Portuguese influence, was a menace to the Dutch position in Ceylon. But the check was only temporary, for in 1662, when it became evident that the fears of the consequences of an active Anglo-Portuguese alliance were exaggerated, a fresh expedition was sent against Cochin, and the operations were conducted with such vigour that the town was surrendered on January 7, 1663, after a considerable amount of fighting, in which the Portuguese showed great bravery. There were 130 Portuguese counted among the dead, and the Dutch besieging force, which numbered 2,000, also suffered severely. A body of the Portuguese inhabitants—1,420 military and 250 civil—were permitted to leave the town on the day after its surrender; and subsequently others left, bringing up the aggregate to 4,000. There still remained 10,000 slaves, whose disposal was a source of considerable embarrassment to Van Goens. This circumstance, with the prevalence of a terrible amount of sickness amongst the expeditionary force, and the absence of any substantial booty, somewhat discounted the value of the victory. But the Dutch commander consoled himself and his superiors with picturesque descriptions of the beauties of the town. "No wonder," he wrote enthusiastically, "the Portuguese valued this place much. The splendid churches with their magnificent spires, the grand public buildings and the comfortable dwelling houses attest the former greatness of the town." Van Goens followed up his success at Cochin by an expedition to Cannanore, which place was captured on February 11, 1663. More than ordinary importance was attached to the achievement, as Cannanore was the first town possessed by the Portuguese in India, and it had been in their possession for 170 years. Van Goens was now disposed to rest on his laurels. He had effectually driven the Portuguese from the South of India, and there was left to them in the whole of the Indian peninsula, only Goa and a few unimportant stations. Goa, Van Goens did not think was worth the expense of an expedition. He was content to allow the Portuguese to remain there, being convinced in his own mind that their star had set for ever.

CHAPTER XI.

Rebellion in the Moluccas—De Vlaming's ruthless Measures of Repression—Systematic Destruction of Spice Trees to limit Production—The Hongi Expeditions—A Dutch Writer on De Vlaming's Measures—Consequences of the System—Blockade of Bantam—Protest of the English—Settlement of Dispute—English re-occupy Pulo Roon, but are again ejected—Dutch War with Macassar—Conclusion of Peace—Renewal of War—Speelman's Expedition—New Treaty concluded—Expulsion of English and Portuguese from Macassar—Appointment of Commissioners in Europe to settle Disputes between the Dutch and the English.

IN the later years of the struggle with the Portuguese, described in the preceding chapter, the Dutch power in the Eastern seas was seriously threatened by a formidable movement, which, commencing in 1650, in Ternate, ultimately extended over the whole of the Moluccas. The trouble arose originally out of the drastic policy pursued by the Dutch Company to maintain its spice monopoly. The Governor, De Vlaming van Oudshoorn was a man of stern and unyielding disposition, whose policy in dealing with the natives, like that of his English contemporary, the unfortunate Strafford, was one of thorough. In 1650, he caused it to be known that in future the Company would take no more cloves than it could sell, and that to safeguard its trade, all trees other than those required to produce the stock bought by the Company must be destroyed. Not unnaturally, the natives who saw that their means of livelihood were likely to be prejudiced, if not entirely taken away, became very discontented, and ultimately broke into open rebellion. The movement of revolt, which, as has been stated, began at Ternate, at the outset was directed as much against the native ruler of that island as it was the Company. This prince, Mandarsjah by name, finding how matters stood, deemed it prudent to beat a retreat, whereupon the rebels installed his brother, the Kimelaha Madjira, as sultan. De Vlaming, who happened to be at Batavia at the time of the outbreak, was despatched by the Council there to the Moluccas with the title of Superintendent Commissioner of the Three Eastern Regencies. With him were sent seven ships, and every available man that the authorities could get together. So completely, indeed, was Batavia denuded of troops, that scarcely sufficient men were left for the duty of guard. Invested with very wide powers, De Vlaming, on arrival in the Moluccas, proceeded to adopt measures to suppress the revolt. The task was no easy one, for the flames of rebellion had spread over a wide area, and De Vlaming had to deal not with a local tribal rising, but with a general movement against Dutch power, in which the Moluccan people were allied with the Kings of Macassar. Ere the suppression of the rising in Ternate had been accomplished, trouble had arisen in the adjoining islands of Ceram, Manipa, and Leitmoor. By strong measures De Vlaming stamped the disaffection out. The Madjira fled to Macassar, but his right hand man, known as the Laxsamana Saidi, was captured. He was put to death with a brutality which is described in terms of the severest reprobation by Dutch historians. According to a well authenticated account, De Vlaming pierced the Laxsamana with his lance, and he fell to the floor. Then when he was lying writhing in his agony, and almost insensible, De Vlaming struck him again in the mouth with his lance, and said, "Wake up, Sir Laxsamana." In a

dying condition the wretched man was handed over by De Vlaming to his soldiery, who subjected him to further brutality. Another episode of which De Vlaming was the dubious hero is related in the records.* Amongst the prisoners who came into De Vlaming's power was a certain chief, Jan Pays Hocum by name, who had been converted to Christianity, and who had spent his youth in the Netherlands. This man had confessed to complicity in the plot against the Dutch, and one night he was secretly beheaded in the Castle at Amboina, together with two other chiefs. On the morrow of the execution, the magnates of the island were summoned by De Vlaming to the Castle. Curious to know the object for which they were called together, they presented themselves in the hall of the Castle. On their appearance, De Vlaming gave a signal, and there was exposed to their horrified gaze the corpses of the chiefs who had been executed the previous night. "As probably several of them were guilty of the same offence, they exhibited the greatest fear and consternation, but as a minute inquiry was not expedient at the time, De Vlaming, after this exhibition, had read out to them an act of general amnesty, which had been carefully prepared beforehand. This seemed to afford them great relief, and they agreed to the stipulations that the people of Thomou and their adherents should be removed within a certain space of time to the Company's redoubt at Luhu, and settle there as peaceful subjects."

"This measure," the report, which embodies a detailed account of De Vlaming's expedition, goes on to say, "was necessary on account of the treacherous character of this people, which showed itself already before the expiration of the prescribed period for their removal, for relying on the promised assistance of the people of Macassar instead of removing to Luhu, they went to the opposite coast and joined the tribes of Latouhahy and Romakay on Great Ceram. Here they again took part in the opposition against the Company, but, finding that no assistance was forthcoming from Macassar, they, together with the tribes of Latouhahy and Romakay, again submitted to the Company. A free pardon was granted, except to some ring-leaders who have been beheaded, and thirty young natives who have been condemned to work in chains for a number of years at the statute labour." But the inhabitants of Tabiolo, relying on the promises of Lant Quitsil Saidi (a prominent rebel), showed themselves exceedingly refractory and refused to listen to the conciliatory proposals of De Vlaming. A punitive expedition against them was undertaken and their plantations were laid waste and their boats all destroyed. "After these proceedings on the Sula

Islands," says the official writer, "our representative (De Vlaming) visited on his return voyage the islands of Buru and Amblau, destroyed all the remaining negories (villages) and corocores (large boats), and the fruit-bearing trees, especially the sago palms, so that the inhabitants were deprived of food themselves and had none to spare for their allies of Macassar or other rebels. From thence he proceeded to Manipa with the object of punishing the rebels of Quelaugh and Bona, who had joined the rebels." There he stormed and carried a mountain stronghold with 150 men. "The rebels were condemned to destroy their clove trees. Four thousand of these, mostly young trees, were cut down. If this precaution had not been taken the island of Manipa alone would have produced within five or six years over 500 or 600 bhar of cloves yearly. The natives of Quelaugh and Bona would not listen to reason. On the night of December 22, we entered the island and surprised the chiefs who were gathered at one of their assemblies. It was deemed that the island was of little use to the Company. Therefore, all the means of livelihood were destroyed, especially the clove trees, which are the only inducement for our enemies to visit these islands, and so become a source of annoyance and uneasiness to the Company. Later on the inhabitants, showing again signs of revolt, were all removed to Luhu, with the result that Bona and Manipa are at present bare wastes and devoid of inhabitants." The letter goes on to relate how De Vlaming afterwards encountered the Macassar fleet, how the Macassars landed on the island of Assahoudy, and how they were besieged there by the Dutch. Then follows this passage: "The inhabitants of Hitou being very capricious and changeable they have also been commanded to destroy all fruit-bearing trees, sago palms, cocoa-nut trees and others necessary for food, which have been planted in the mountains with no other object than to serve as provisions in times of revolt. And as it is very probable that in a short space of time they may make another effort to throw off the yoke of the Company which appears to be very onerous to them now De Vlaming has sent some agents round the island to find out the situation of their clove trees so that in case of need orders may be sent for their extermination. It has been calculated that the country of Lutemor and the islands of Oma, Honimoa, and Noussalant which belong to the Company will soon produce a sufficient quantity of cloves to supply the markets of the world. Our intention is to eradicate the spice-producing trees in all the other parts of the Archipelago which will only necessitate our guarding the above-mentioned places as it is only for the sake of the spices that other nations harass us."

"We informed you last year of the proposal of Mr. de Vlaming to demolish the

* MSS. Dutch Records at The Hague, Vol. XVIII.

Company's fortresses on Cambello and Luhu, the heavy expenses involved in their maintenance being uncalled for since the islands had been laid waste. At that time we could not see the wisdom of the suggestion but our opinion has undergone a change since and we have now given him authority to act as he may think expedient. . . . Mr. de Vlaming informed us that outside the district of Hitu, of the islands of Leytimor, Oma, Honimoo, and Nussalant no spice bearing trees of any importance are now being met with, but others who have visited these parts think that in the mountains a great many trees have remained unexterminated which in five or six years time may again produce a considerable quantity of fruit. Our own opinion is that the first extermination will have to be followed by others in a few years and that the only means for enjoying the peaceful possession of Amboina is the destruction of the clove trees in order to protect ourselves against the treachery of the natives and the wicked machinations of our enemies. This policy will entail much trouble and expense but we trust that in time it will prove the right one. . . .

"As it is thought inexpedient ever to allow the natives of Tharnan who have been transported to Latouahy and Romakay to return to their island Mr. de Vlaming has partitioned their lands, which would soon have turned into wastes among the Christian subjects of Quineva on condition that they reside in the redoubt. He is, however, persuaded that no reliance will ever be placed on these people as long as they retain among them so many of the Moorish religion. It will therefore be attempted to persuade them by lawful means to accept the Christian religion, which will not be difficult, and although by reason of this forced conversion we cannot administer to them the rites of the blessed baptism their children would be instructed in our public schools and in time become good Christians.

"From Ternate news had reached Amboina that the King of Tidore had openly began to assist the rebels against the King of Ternate and the Company. This has given us the long-wished for opportunity to open again hostilities against him. Mr. de Vlaming, with the Council at Amboina, resolved to make hay while the sun shone, and has at once gone to Ternate to confer with the honourable Hasted on the best means to take this work in hand." De Vlaming proceeded with a force to Timor, but ill luck attended the expedition, and he sustained some rather bad reverses. Meanwhile, news arrived that the chiefs of Macassar were preparing another expedition for the Moluccas. Rumour credited the chiefs with the design of launching a great expedition, and events proved that such was the case. The expedition, which left Macassar on March 11, 1654, numbered one thousand prahus and nearly forty thousand men, and with it went the King of Macassar and all his principal chiefs. Bottone fell an easy prey to the expedition. According to an English account* the King of the island was killed by his own people before the invaders landed because he was preparing to submit, conceiving their force to be irresistible. The Dutch, who had a small fort there, fought till overpowered, and when the besiegers entered it sprung a mine, blowing themselves up and killing many of the Macassars. Bottone was made the headquarters of the expedition, and the Macassar chiefs continued to threaten and harass the Dutch until May, 1655, when

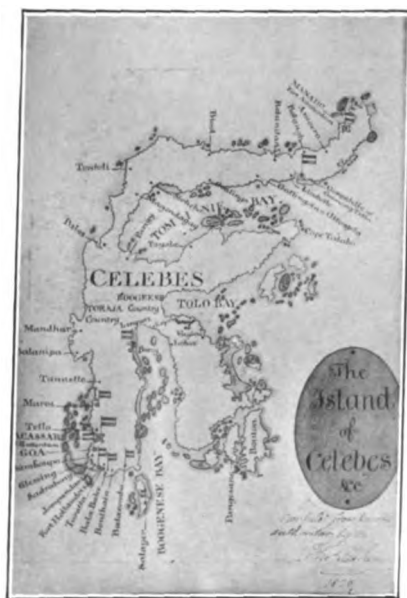
the King of Macassar withdrew his forces and returned home. Towards the close of the same year, the Dutch Council at Batavia sent a representative to Macassar to sound the authorities there as to the future. He was well received by the King, who was induced to make peace, but was deterred from doing so, the Dutch believed, by the English and the Portuguese, whose interest it was that the wound should be kept open. Meanwhile, De Vlaming was pursuing his campaign against the rebels with characteristic ruthlessness. The enemies' strongholds were attacked by the Dutch, assisted by a large body of natives sent by the King of Ternate, and after a brisk fight were captured with a loss to the enemy of 700 killed out of a garrison which numbered no more than 1,200. Following this victory came the familiar operation of destroying the plantations, this being done "so as to bring famine to assist our warfare." Owing to the great expense of the garrisons, De Vlaming at this period suggested that when once the clove trees had been thoroughly extirpated

and nutmegs only in the Banda Islands. But as Nature did not care for the regulations, and went on strewing its favors over the colonies with generous hand, a continuous attention was necessary to prevent this. For this purpose the so-called 'hongi-tochten' (hongi-expeditions) were undertaken. At fixed periods of the year, the population of Amboina was called up to assemble with their vessels. Commanded by an official of the Company, an expedition was held, and wherever spice trees were found they were destroyed. But also in another fashion the Company saw its way to utilize these 'hongi-tochten.' When the harvest of cloves was abundant, the Company often received such a quantity that it was difficult to sell them at a fixed high price. In order to prevent their sale at a lower price the surplus was often burned. But this was an expensive measure, as the Amboinese had to be paid for the cloves that were destroyed. The hongi-tocht was the means adopted to prevent this state of affairs. If too rich a harvest was expected, the hongi-fleet was called up at a time when the cloves were ripe but before they were harvested. When the natives returned from the expedition the fruit was spoiled on the trees, and the Company was not obliged to take it. And also against the danger of rebellion the hongi-expedition was used. After the expedition a feast was organised, and the intoxicated natives were often persuaded to relate their plans.

"That the Moluccas could not prosper by such a system is evident. The islands, where the culture of spice was prohibited, lost a vast source of wealth, and were moreover harassed by the crew of the hongi-fleet, who, being badly paid and badly fed, tried to indemnify themselves by robbing the population. And on the islands where the culture was allowed, the fate of the population was not better. Forced culture and compulsory delivery impeded their freedom; the small payment, given by the Company, was not nearly sufficient recompense for the pains that were taken, while the population had moreover to render all sorts of services both to their chiefs and the Company."

We have evidence in De Vlaming's own reports of the injuriousness of his cruel system, even from the narrow standpoint of the Company's immediate material interests. Writing to the directors on December 24, 1655,* the Governor-General, after enumerating the places in which the clove trees had been destroyed, said: "The only places where these trees continue, are Hitou, Latemoor, Oma, Homoo, and Nussallant. At these places we can easily protect them, but as the trees in Molucca, Machian, Ternate, and Bachian have also been destroyed, they will not produce the amount of fruit which is required for the Company's trade. For this reason, Mr. de Vlaming has ordered the natives of the islands under our rule to plant new trees, 500,000 in all, divided over the different districts, and in accordance with their population. Still, it will take some years ere we shall reap the benefits of this useful measure. In the meantime, through the lessened supply, the Company will be obliged to raise its prices, which will be an easy matter as long as she holds the monopoly of the trade; but we are of opinion that this will become more and more difficult on account of the increased competition."

In short, it would appear that the Company had performed the familiar operation of cutting off their nose to spite their face.



(Reproduced from the Java Records at the India Office, Whitehall.)

and the inhabitants removed, the islands of Bachian, Machian, Ternate and Tidore should be abandoned, but the authorities at Batavia declined to entertain this proposal on the ground that "it would be dangerous to vacate Ternate entirely, as no doubt others would come and take possession of the islands and make new plantations which in six or seven years would again bear fruit." De Vlaming consequently continued with his old policy of suppression. For an impartial description of its character and effects we cannot do better than turn to the erudite pages of Van der Lith.* Says this writer: "Hohamowel was quite depopulated; the Christians and Pagans were removed to Leitimor and the other inhabitants were sent to Hitoe. The producing power of Nature was checked. Henceforth spice should only grow where the Company should wish. Cloves were only allowed to grow on Amboina and the Oelasser Islands,

* Letter from the Factor at Macassar to the President and Council at Bantam, Celebes Records.

* "Nederlandsch Oost Indie," page 493.

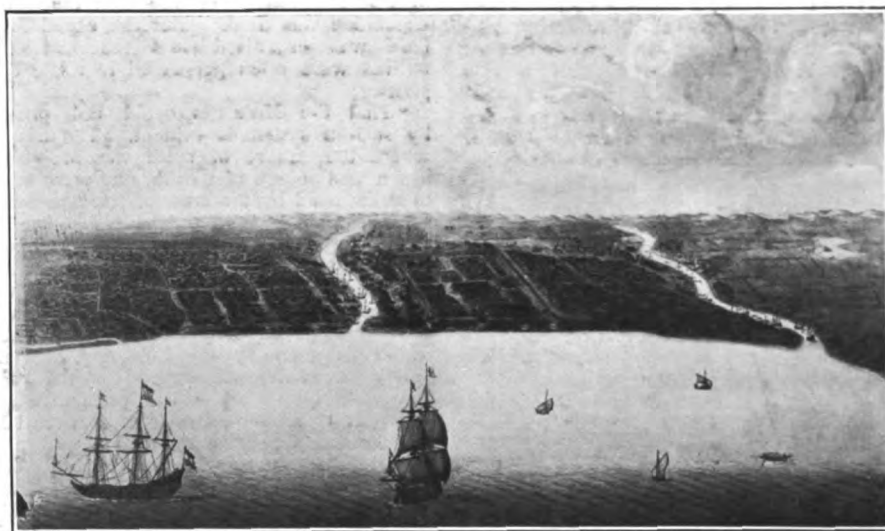
* MSS. Dutch Records at The Hague, Vol. XIX.

From the moral standpoint, there appear to have been no misgivings as to the policy pursued until its economic failure had been demonstrated. Then an intimation was given by the directors that kind treatment and encouragement of the natives were likely to be more successful in the long run than cruel and harsh measures. The Council at Batavia, probably prompted thereto by this minatory note in the communications from home, gave De Vlaming a rap over the knuckles for the bellicose tone of some of his communications relative to Macassar. "De Vlaming," said the Governor-General, in reporting the matter home, "does not want peace. We see the matter in another light. Our enemy can wage war against us with little expense, while it nearly ruins the Company, and at the same time prevents more important expeditions." In pursuance of their conciliatory policy, the Council sent one of their number, Van der Beek, on another mission to Macassar. The business appears to have been badly bungled, for we find the Governor-General complaining that Van der Beek had acted in several respects in a manner quite contrary to their intentions, and stating that in

and load cargo for England, but the request was refused, and the Dutch even went the length of preventing the vessel from communicating with the shore. In consequence of this, the English president at Bantam proceeded to Batavia and personally remonstrated with the Dutch Council, pointing out to them that Bantam was the headquarters of the English Company in the southern seas, and that the Dutch action prevented them from corresponding with their subordinate agencies. The representations had little or no effect, as the Dutch were intent on reducing the Sultan of Bantam to submission and were not greatly concerned at the harm which, in the process, might be inflicted upon their rivals. Owing to the rigour of the blockade the English factory was ultimately reduced to a very distressed condition, and the president, on May 8, 1657, addressed to the Court a doleful letter, asking that the Company should either recall them or re-establish the trade at Bantam on a proper footing "that it may not be disturbed by the Dutch, who would willingly put out one of their eyes to deprive us of both ours, that is to say, to compel us to withdraw from these parts."* Before this, a heated corre-

in Europe, there is little hope of better from them." On their side the Dutch defended their action with vigour. They advanced the view—"the ridiculous proposition" the English described it—that because the Dutch were at war with the Sultan the English Company's agent at Bantam ought to leave that place without waiting for a special order to do so from his superiors. Meanwhile, moved by the representations of their servants, the English East India Company had invoked the aid of the Protector to secure that the Company's trade should be conducted without interruption in future. Cromwell, as we have seen, backed the Company's demands with such vigour that the Dutch were glad in the end to make restitution in the Treaty of Westminster for past transgressions. Incidentally the blockade of Bantam was relaxed, to the great relief of the English trade. The conclusion of peace on July 11, 1659, between the Dutch and the Bantamese, finally removed this source of grievance. But not long elapsed before friction arose between the representatives of the two companies in another direction. One of the provisions of the Treaty of Westminster was that the island of Pulo Roon should be restored to the English. The retrocession was bitterly opposed by the authorities at Batavia, who, having at enormous expenditure of money and blood fairly cleared the Moluccas of rivals, did not want to have their old enemies installed once more in their midst. The instructions to hand in regard to the island were therefore disregarded, in spite of the persistent protests of the English. Such was the determination shown to hold the island that the Macassar agent of the English Company, writing to his superior at Bantam on June 29, 1659, expressed the view that a warlike armament would be necessary to enforce the Treaty. Eventually, owing to the irresistible pressure applied from home, the island was retroceded, but the Dutch officials, before leaving, took care to lay it completely waste, so that the newcomers should not find their position a very desirable one. On the outbreak of the war between the English and the Dutch in 1664 the situation of the English colonists became a source of much anxiety to their colleagues elsewhere. The Macassar agent of the English Company was able with difficulty to make an arrangement with some native mariners for the removal of the force, "but," says the agent in a letter to his superiors, "when they came to consider seriously of the enterprise they all slunk away declaring it was impossible, owing to the fortified positions of the Dutch." Ultimately, in September, 1665, a sloop was sent from Bantam to effect a rescue. This vessel eluded the Dutch until it was quite close to the island, but was then pursued and captured. A short time afterwards the Dutch sent a vessel of their own to Roon, and removed the garrison as prisoners to Neira, where Lieut. Willoughby, the officer commanding, died. On December 10, 1665, the island was re-occupied by the Dutch, and from that time Pulo Roon ceased to be a bone of contention.

Long before this final controversy relative to Pulo Roon, there had been important developments in the situation at Macassar. Under one of the articles of the treaty concluded by the unfortunate Van der Beek, it was agreed that the Macassar people should be at liberty two years from the date of the ratification of the compact, to remove any of their nation who might be resident on Amboina, and also collect moneys due to them. De Vlaming disapproved of the article, as it



ANCIENT VIEW OF MACASSAR.

(From an old drawing preserved at the State Records Office, The Hague.)

consequence of this he had been excluded from the meetings of the Council preparatory to being sent back to Holland. As, however, owing to the condition of affairs at Bantam, the attitude of the Soosoooonan, and the restlessness of the King of Johore and other potentates, peace with Macassar was absolutely essential, they had decided to acquiesce in the agreement he had concluded.

The allusion made by the president to the state of affairs at Bantam had reference to a revival of the old disputes between the Dutch and the Bantamese relative to trade. To enforce their demands the Dutch authorities at Batavia sent a fleet of nine ships and thirty sloops to blockade Bantam. The measure raised a fresh crop of difficulties for the Council, since it brought them once more into active antagonism with the English, whose trade was seriously interfered with by the process. In December, 1656, when the blockade had been in force a short time, application was made by the English Council for permission for a ship to enter the port

spondence had passed between the English and the Dutch officials relative to the boarding of an English vessel, the *Marigold*, by the Dutch, and the seizure by them of the papers of Mr. Skinner, an English factor who was proceeding to the Coromandel coast. It was averred by the English that while Mr. Skinner's private papers were left unexamined, the official documents, particularly the Original Consultations of the Bantam Agency, were "very exquisitely searched into." The Bantam Agency observed that it did not concern the English Company whether the Dutch made peace or war with any potentate there, "so they let us alone in our peaceful trade as we formerly enjoyed it in all parts of India, notwithstanding the Dutch have sometimes been at open war with the native princes, even with the Bantamers themselves, when our ships had free access without control." In another communication the opinion was advanced that until "they (the Dutch) be beaten in India as they have been

* East India Records. Original Consultations, No. 1958.

seemed to provide an opening for intrigue, which would be seized by their wily enemy. He, therefore, wrote to the King of Macassar offering to undertake the necessary steps and execute his orders, and requesting that he should keep his emissaries away. The King, however, declined to be deprived of the privilege which the Treaty conferred on him, and despatched representatives to all the districts of Amboina, paying particular attention to those which had been involved in the recent rebellion. The effect of this invasion from Macassar was soon manifest in the increasing restlessness of the inhabitants. The Dutch authorities were in some doubt as to how they could punish the disaffected, so thoroughgoing had been their earlier measures. "Their clove trees have been destroyed, to a certain extent. We cannot impose any fines, as they possess nothing. We can only make use of them for the works of defence raised on the island. They have no cause for complaint, as their produce is carefully weighed and at once paid for as soon as delivered."* It is doubtful whether the natives regarded this exaction so philosophically. The defences, however, were strengthened with their forced labour, and every preparation was made by the judicious disposition of forces for the impending crisis. Meanwhile, a mission sent to Macassar to arrange amicably the dispute which had arisen as to the Treaty, met with a reception which left no doubt as to the disposition of the King. The King of Macassar demanded the immediate evacuation of the islands of Bourou, Amblau, and Great Ceram, and threatened that the war would be renewed if the demands were not complied with. The Dutch authorities did not even

to the unsatisfactory condition of the Company's affairs at this juncture, it was only possible for the Dutch to maintain this defensive attitude. But the Company found some compensation for their troubles in this quarter

During the present year the bhar of cloves which had been purchased at 80 real fetched at Gammelamma from 130 to 140 real. At Manilla they could obtain double that amount. The trading in cloves is a



THE VICTORY OF THE DUTCH NEAR MACASSAR, 1667.
(From an old engraving preserved at the State Records Office, The Hague.)



FAMOUS DUTCH ADMIRAL.
GOVERNOR-GENERAL, 1681-84.

deign to reply to these preposterous demands, but steadily prosecuted their arrangements for the defence of the Moluccas. Owing

by obtaining a footing in Tidore. The island was brought under the Dutch influence in singular fashion. The old King dying in 1657, a dispute arose as to the succession. The Dutch Governor threw his weight into the scale on behalf of one of the aspirants to the throne, Galopino by name. "A score of Dutch soldiers, so-called deserters, were enrolled among the native troops, and hostilities commenced in earnest. The party of Galopino were then persuaded to destroy their adversaries' clove trees, and also their own, for which the Company would pay a compensation of 3,000 real annually." "In this manner," wrote the Governor-General* with a glow of satisfaction, "has been accomplished the aim for which we have striven for many years. The only places in the world where cloves are now found are in the possession of the Company, and comprised only in the jurisdiction of Amboina—such as Hitou, Laytimor, Oma, Hommoa, and Nussilant. These islands lie close together, and are easily protected. The Company now command the whole of the spice trade of the world." This crow was a little premature, for the rival candidate to the throne, Weda, backed by the Spaniards, ultimately secured election. A suggestion which had been made from home that the Dutch should come to an arrangement with the Spaniards for the destruction of the clove trees on Tidore was rejected by the Batavia Council as being impracticable. "The King of Spain," the Governor-General wrote, "attaches great importance to the glory of owning some of the spice producing countries of the world. Besides, his Majesty would not easily forego the profits they ensure,

monopoly, nobody being allowed to buy or sell them except the Governor, priests, and captains. The profits they make is the only remuneration they receive."

After a protracted warfare, a series of raids and counter raids, and risings on the islands, and violent measures of repression, peace was concluded between the Dutch and the King of Macassar in 1661. One article of the compact stipulated that the Portuguese should be expelled from the island. The King appealed to the Dutch to allow the Portuguese to come once a year to his capital, but even this limited access was denied.

"We think it would be very unwise to grant the request," wrote the Governor-General, "but as we do not want Macassar to be ruined entirely, we have decided to increase our imports of cloths and exchange them for sandal wood, wax, tortoise shell, &c. This will bring a little life to the place and at the same time be a means of driving away the English and Moors." To keep the King quiet, it was proposed to send him a considerable present—Fl. 20,000 (£1,000). The fair prospect opened up of the establishment of more peaceful relations between the Dutch and the Macassar people was destined soon to be obscured. Before very long, new sources of quarrel arose, and the breach, once opened, speedily widened. Anxious to avoid a conflict, the Batavia authorities sent a special envoy to Macassar charged with the mission of placating the King if possible. This representative was so badly received that he deemed it prudent to quit Macassar without observing the usual formalities. In referring to the mission, the English factor, writing home to the directors on July 5, 1666,

* Governor-General to Directors, December 17, 1657.
MSS. Dutch Translations at The Hague, Vol. XXI.

* MSS. Dutch Records at The Hague, Vol. XXI.

expressed surprise at the hurried character of the envoy's movements. He was of opinion that the Dutch commissary "showed small acquaintance with the Macassar's customs, for they pique themselves on being generous and scorn to seize any in their parts, though ever so great enemies, but will first give them warning to depart."*

The warlike spirit shown by the King of Macassar, which had taken the form of the preparation of a large fleet of prahus for the Moluccas, somewhat languished until news was received of some English successes in the war against the Dutch at home. This re-incited them, and no fewer than 1,200 prahus were equipped and put under the command of a noted leader. Meanwhile, the Dutch had taken an accurate measure of the situation by equipping at Batavia a fleet of 13 ships, manned by 500 Dutch and 300 inland (Bugis) auxiliaries. The command was entrusted to Cornelis Speelman, one of the most experienced officers in the Dutch Company's service. Quitting Batavia on November 24, the fleet appeared off Macassar on December 19. The King immediately sent off representatives with money in satisfaction of claims which the Dutch had against him. But it soon appeared that as far as all essential political matters were concerned there was to be no submission. Moreover, Speelman learned for the first time of the despatch of the expedition to the preparation of which reference is made above. He consequently declared instant war against the Macassars. Hoisting the red battle flag, the fleet took up a position close to the city. Afterwards, during the night, they weighed anchor and proceeded to the Bay of Ourrata, on the south side of the island, where a landing was effected, and a successful raid was made, in the course of which a number of villages were destroyed and the country laid waste. On the following day, an expedition on a larger scale was made to Bonthain, where, assisted by Bugis auxiliaries, many villages were attacked and destroyed and the country laid waste. As the localities where these raids were made were the chief areas from which Macassar drew its supplies, the damage done was very heavy. Satisfied for the present with his attentions to the Macassars in their home, Speelman directed a course for the Bay of Buttone. On arriving there, he found the place closely besieged by the Macassar fleet. An attack was immediately delivered, and on January 4 the Macassar leaders surrendered. No fewer than 11,000 persons were involved in the capitulation, and Speelman also secured great stores of rice and munitions of war. Most of the Macassar prahus were destroyed, but two capital war junks were reserved to be added to the Dutch fleet. In June, Speelman returned to Macassar to complete the task he had so effectually begun at the commencement of the year. His fleet, greatly reinforced by Buttone and Bugis, on July 21, commenced active operations, and these were continued until August 7, when the Dutch with a combined force of 10,000, including 7,000 Bugis, found themselves opposed by the entire army of the King of Macassar, numbering 20,000. Afterwards ensued a series of skirmishes in which neither side secured any great advantage, though the Dutch, warring as they were in the enemy's country, every day got nearer their goal by sheer persistence in the invasion. At length, on November 18, the Macassars, tired of the protracted warfare, were glad to sign terms of peace which gave the Dutch possession

of a valuable *piéd à terre* in the northern part of Jupandam, which was promptly re-christened Rotterdam.

The treaty to which the King of Macassar appended his signature conferred upon the Dutch a position of commanding influence in Celebes. Apart from the cession of Jupandam, it provided for the expulsion of the English and the Portuguese, and prohibited the admission of any other Europeans. The Dutch were to pay no customs, and Dutch coin was to be current. All fortifications were to be demolished and sovereignty over the Bugis was to be renounced. Finally, as an indemnity for the breach of the previous treaty, the King was to hand over a thousand slaves, and as an indemnity for the war he was to pay 250,000 Rix dollars. There were great public rejoicings at Batavia over Speelman's triumph, but it proved that the congratulation was a little premature, for in April, 1668, the Macassars made a desperate effort to cast off the Dutch yoke. The outbreak commenced with a surprise attack upon two Dutch guard-boats, the crews of which were slain. Afterwards, the Dutch were closely besieged in their forts by a force which included a large number of their recent allies. To make matters worse, serious sickness appeared amongst the Dutch troops, and Speelman himself was so indisposed that he had to go to sea to recuperate. The fight was maintained with varying results until June 24, 1669, when the Dutch gained a decisive victory over the Macassar forces. After this, the King submitted, and perforce accepted a new treaty, which left the Dutch absolute masters of the situation.

Before this final advantage had been gained the Dutch had put into execution that portion of the Treaty of 1667 which provided for the exclusion of their rivals. As the Englishmen showed no disposition to depart, the Dutch commander caused the English factory to be seized, and had the staff embarked with the Company's goods on two ships for Batavia. Great was the indignation of the English Council at Bantam when they had news of the occurrence at Macassar. The justification put forward by the Dutch for their procedure was that the English factors had been in league with their enemies, and had been largely instrumental in fomenting the recent outbreak. From entries in the English Company's records, there is good reason to believe that there was considerable truth in this allegation; but the Bantam Council strenuously asserted that their officials at Macassar had clean hands in this matter, and they insinuated that the object of the Dutch was "only to cast an odium in general on the nation amongst these people, by making us incendiaries and fomenters of disturbances, and also to bring our particular agency in question with our masters." Therefore, the Council declared "that as to any such action before our knowledge of war with them (in Europe) we are innocent." The writer proceeded: "And will they tax us for aught done after we knew of difference between the nations? They show their inveterate malice, and indeed weakness, for as we had reason to seek the prejudice of our now declared enemies, so ought we to assist those under whose protection we were and in the same condition (relation to the Dutch) with us; and, therefore, we afforded them all assistance possible in powder, guns, lead, &c., although so treacherously rewarded (by the King's consenting to their deportation) and as to the parts (acted by) our masters' servants their uncivil usage at Batavia manifests how they behaved themselves; and had there been 150 such in Macassar the

Dutch had never insulted (? exulted) over it as they do."*

In a letter of a later date to the Surat presidency, the Bantam Council affirmed that the design of the Dutch in the war with Macassar was not so much to conquer the King of Macassar as "to beat us out of that trade which has been so eminent and advantageous to us for so many years past and to promote their grand object of making themselves masters of the whole South Eastern Seas." When the news of the expulsion of the English from Macassar reached England, early in 1669, the Court of Directors of the English Company drew up a memorial to the Crown, pointing out that the action of the Dutch was a direct infringement of the Treaty of Breda, and demanding reparation for the injuries inflicted, together with a revocation of that part of the Treaty concluded by the Dutch with the King of Macassar, which excluded them from Celebes. Some disagreements leading to the compulsory retirement of the English from Djambi, which took place soon after the Dutch occupation of Macassar, gave point to the English Company's claim. Notices on the subject occur in the Court Minute Books and Letter Book until the beginning of the year 1670, directing preparatory measures, but no vestige follows of any negotiations founded upon them.* Early in 1672, a new war broke out between England and Holland, when the pursuit of the affair appears to have been dropped. Ultimately a treaty between the two countries was concluded at Westminster on February 17, 1674. It was agreed between the contracting parties that the disputes regarding the possessions and trade of the two nations in the East Indies should be relegated for settlement to commissioners. In accordance with this arrangement, delegates appointed by each Government met in London and after protracted sittings agreed that the matters upon which they could not come to an agreement should be referred to an arbitrator. To what extent, if any, satisfaction was given to the English Company is not clear; but from this point the disputes between English and Dutch in the East became less prominent until the old quarrel was revived more than a century later. The truth is that each nation more and more found occupation in its own sphere—the English in India and the Dutch in the Eastern Archipelago.

It is interesting to speculate what might have happened if the English had not been so effectually driven from Java and the Eastern islands by the Dutch. Would the course of history in India have been affected by the creation of permanent interests in the region in which Holland now exclusively reigns, or would Britain's Eastern Empire have taken a wider and grander range? On the other hand, what would have been Holland's position if in the stress of conflict she had diverted to the magnificent field of the Indian peninsula those great resources and those remarkable qualities which she lavished with no unstinting hand in the struggle to assert her predominance in the archipelago? The proper consideration of the question involves many points not merely of economics but of political history. On the Dutch side, a single conception—the establishment of a monopoly in the spice trade—dominated the policy of the Amsterdam merchants, and it was adhered to with a wonderful tenacity to the last days of the Dutch East India Company. But in the

* Celebes Records.

* Celebes Records.

earlier stages of the struggle the commercialism of the Bewindhebbers was strongly coloured and influenced by political feeling. The Dutch traders were keenly desirous of planting their feet firmly in the Eastern archipelago, but they were quite as anxious to destroy the influence of the Portuguese and Spaniard, whose tyranny had been so grievously felt by them in a period then quite recent. Their war against the Iberian powers was bitter and relentless, as became a movement into which a national feeling of revenge entered, and it was, moreover, conducted with such a disregard of cost as to place it outside a mere trading struggle. The annual blockades of Goa involved a monetary sacrifice out of all proportion to the benefits which accrued from the measures. Yet there was no thought of abandoning them until Portugal, despoiled and crushed, lay a helpless victim at the feet of Holland. It is, curiously, in the completeness of the ultimate victory that is to be sought the chief cause which drew the Dutch away from the centre of Portuguese power in India and ultimately from the Continent of India itself. When Malacca had been captured, Ceylon conquered, and the Portuguese garrisons driven from Cochin and other ports in Southern India, Goa was left a mere torso, interesting as a survival of a once great and historic empire, but commercially of no account. The Dutch abandoned it as being not worth the sacrifice of treasure and lives which would be involved in its reduction. For the moment they had their hands more than full with their new possession, the fertile island of Ceylon, and at a later period the alliance between Portuguese and English introduced another factor which strengthened the feeling that it would be well to leave undisturbed the phantom of Portuguese dominion in its home in Western India. So the withdrawal from the Indian field, tentative at first, became gradually more decided as the growth of Dutch interests in the archipelago and notably in Java increased. Finally, the pull Eastwards became irresistible with the development of British power in the East and the simultaneous decay of the Dutch East India Company.

Unlike the Dutch, the English, when they first went to the East, had no strong political motive to stimulate their efforts and give consistency to their policy. They were simple traders, who wanted to buy in the cheapest market and sell in the dearest. Territorial aggrandisement was far from entering into their calculations, and they shrunk from any responsibility which could not be set out in plain figures in their ledgers. In regard to the Portuguese, the English shared to some extent the Dutch feeling of dislike, but it

was a dislike tempered with prudence, and they were made unwilling participants in the measures for the overthrow of the Lusitanian power. The timidity shown in their enterprise, as compared with the bold and far-reaching character of Dutch designs, was to some extent a natural feeling born of a trade experience of a circumscribed character. But the phenomenon, with the lapse of time, was deepened and strengthened by the political troubles in England which monopolised public attention to the exclusion of all outside interests, however important they might be. So it happened that the English East India Company went haltingly on its way, nervously fearful lest its enterprises should carry it beyond its financial depth. By the very nature of its existence in these difficult times of the first half of the seventeenth century, it was compelled to concentrate its establishments, and geographical as well as political considerations fixed its headquarters at Surat. It could scarcely have found a finer locale for its work, even if it had started with the deliberate intention of creating for itself a position of commanding influence in India. From Surat, the English merchants were able to tap the best markets of India, and at the same time to form political connections which were to be of untold advantage in subsequent years. The place was not only a look-out window upon India, it was also a valuable observation post for the Persian Gulf and the Red Sea. In such an advantageous situation, it was natural that ties should be formed of the utmost value commercially—ties which demanded more and more of the Company's energies and called increasingly for the services of its best officials. The Great Mogul was still a title with meaning when the English first appeared in India, but the seeds of decay had been planted in the splendid fabric of Mahomedan rule, and the opportunities were forming which in the eighteenth century were to be availed of by the British and which were to open for them a vista of empire the like of which the world had not seen since the days of the Romans. The acquisition of Bombay as a part of the dowry of Charles II's unhappy wife was another and important influence in fixing the English East India Company definitely in India. Until that splendid position was obtained on a tenure of absolute sovereignty, the English had not a square yard in the East which they could call their own. Thereafter, they were able to look with a certain amount of assurance to the maintenance of their position in Western India against native intrigue and attack, and at the same time to frame schemes for the

extension of their influence in other parts of the peninsula. By the end of the seventeenth century, when in other circumstances they might once more have turned their attention seriously to securing a permanent foothold in the archipelago, they were too occupied with Indian affairs to devote their energies and resources to a renewal of the old struggle. The greater part of the eighteenth century was even less favourable to adventure outside the limits of India, and though successive efforts were made to open the China trade, the question of reviving old influence in the Eastern islands was not taken up with any degree of energy until towards the close of that century, when Penang was occupied. This step of itself was an admission that old ambitions could not be realised. The Dutch had so spread themselves over the region that the East India Company had to be content with this station at the northern end of the Straits of Malacca, far removed from the earliest seat of its power. It was moderately useful as a port of call for ships bound to China, but it was of small value as a centre for the diffusion of power in the archipelago. In point of fact, outside the purely Dutch territory, there was little or no room for expansion excepting in the Malay Peninsula and parts of Sumatra where there was only moderate scope for enterprise of the kind possible in those days.

From this brief survey it will be gathered that the influences which fixed each power in its own sphere of action had their origin in causes which were practically irresistible. The "stream of tendency"—destiny if you will—carried the Dutch Eastward just as it swept the English over India, and the movement once established practically left no alternative to either. It is possible, but scarcely conceivable, that the Dutch, if they had taken seriously in hand the development of the Indian trade, might have ended by greatly altering the map of India as it is seen to-day; it is equally within the bounds of possibility that the British, if they had established themselves in the archipelago on a permanent basis, might have done great things there. But the reasonable conclusion is that the action taken in either case would have had a destructive rather than a constructive effect. The great diffusion of power which would have been inevitable would have crushed the Company, whether Dutch or English, and the end would probably have been all round ruin. As things were it was only the possibility of effective concentration which saved the position of both races in the East at crises in their history.

CHAPTER XII.

The Dutch Power in the East at its Zenith—The Japan Trade—Evacuation of the Pescadores and Occupation of Formosa—Koxinga's Expedition against the Dutch in Formosa—Dutch Council disregards Warnings of Coyet, the Governor—Taiwan attacked—Capitulation of Fort Provintia—Barbarous Treatment of Prisoners by Koxinga—Fort Zeelandia invested—Its Surrender completes Koxinga's Conquest of the Island—Consternation at Batavia—Coyet made a Scapegoat.

By the third quarter of the seventeenth century, the Dutch East India Company had reached the zenith of its power. The range of its interests was truly enormous, having regard to the fact that it was a simple trading company, and to the circumstances

of the time in which it conducted its operations. From the Cape to Japan, it possessed a chain of important stations, while off the main track to the Far East, in India, Siam, Borneo, Cambodia, Cochin China, and in various parts of Malaysia, it maintained

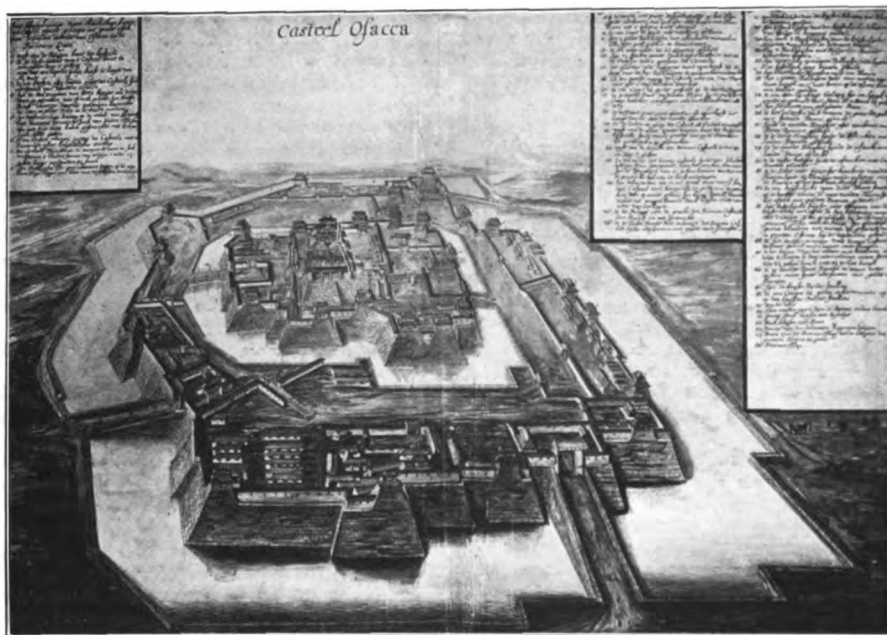
subsidiary establishments. Its power was enforced by a great marine establishment and an efficient army, which, though small in numbers according to modern conceptions, was a force of considerable potency in regions in which a lively fear of the martial prowess

of the European existed. The principal Dutch settlements were, as will have been gathered from the text, colonies, and not mere trading centres which witnessed a constant coming and going of officials without any real stake

would be as desirable for as many chests of gold of the same weight to be sent in future. It was, indeed, as Raffles says in his "History of Java," "the golden age of the Dutch trade;" but the enterprising administrators

to the harbour, a small redoubt known as Utrecht was constructed on a hill, and a second and smaller work known as Fort Provintia was afterwards added. Excellent relations were established by the Dutch with the inland tribes, but owing to oppressive regulations friction arose with the Japanese and Chinese traders. Ultimately, the former withdrew altogether from the island, and they were followed at a considerable interval by the Spaniards, who were driven out of Tamsui and Keelung, on the north of the island, by an expedition sent from Taiwan in 1641. When the island had thus been cleared of possible rivals, the Dutch set themselves to the task of consolidating their conquest. Trading posts were established at Tamsui and Keelung, and the Dutch power was carried inland to the beautiful Kapsulan Plain, lying to the southward of Keelung. After this, the progress made was very rapid, until 1650, when the villages under Dutch jurisdiction numbered 203, and Dutch authority had even reached the east side of the island. A large revenue was derived from the colony at this time, and the place was regarded very justly as one of the most promising assets of the Company.

In 1655, being anxious to strengthen its trade with China, the Dutch Company sent an embassy to Peking. Messrs. Goyer and Keyzer, the Company's representatives, were on the whole well received, but their mission was a complete failure, for the only concession they could obtain was the dubious permission to send an embassy once every eight years. Secure in their possession of Formosa, the Dutch might have regarded with some equanimity the rebuff they had received at Peking had not a new and startling change been effected in the situation in the Far East by the rise to power of a half pirate, altogether rebel, chief named Koxinga. This worthy had headed a great and largely successful movement against the Tartar usurpation, until he was suddenly checked by the cutting off of his supplies by the simple expedient of wasting the country along the



BIRD'S-EYE VIEW OF THE CASTLE AT OSAKA, JAPAN.

(From a seventeenth-century drawing preserved at the State Records Office, The Hague.)

in the country. The difficult problem of the successful propagation of people of a European stock in a tropical climate did not trouble these pioneers of Dutch trade. They simply settled in a country and left to Nature's law of the survival of the fittest the decision of the question. Thus were built up colonies which were a tower of strength in time of need, for they constituted a reserve of the very best kind for the Company's military and naval forces. It is probably to this early colonising policy that the Dutch owed much of their success. The Company's servants were all men who thoroughly understood the countries in which their lot was cast, and who knew at once the strong and the weak points of the people with whom they had to deal. Moreover, they were acclimatised and able to bear physical hardships or extremes of heat to which unseasoned newcomers might have succumbed. In many ways, the settlement of the Dutch on the soil operated to their advantage, and though the system was productive of various abuses, and in its working was cruel, according to modern ideas, it did more than anything else to give Holland that firm hold on the Eastern archipelago which has never been relaxed.

One great source of the Company's prosperity in the early half of the seventeenth century was the trade with Japan. When the Dutch obtained an entrance into the country in 1611 they found it, from the commercial point of view, a veritable gold mine. Enormous profits were made by transactions in the prosecution of which the Dutch enjoyed a favoured position. In 1640, the Company obtained a return in gold that yielded a profit of upwards of a million guilders. They had been accustomed to procure for some time previous to 1663 a return of silver to the extent of two hundred chests of one hundred pounds each, and it was suggested that it

of the Company were destined to reap in the Far East a harvest of tares as well as of golden wheat, for there occurred one of the most disastrous episodes in the history of the Company—the expulsion of the Dutch from Formosa. A brief review of the circumstances in which this island was occupied seems to be desirable before we enter upon a relation of the details of the disaster.

From a very early period of its career, the Dutch East India Company, like its English rival, cast longing glances in the direction of China. Following upon the failure of various attempts to penetrate the hard shell of Chinese exclusiveness the Dutch, in 1622, occupied the Pescadore Islands, which had been visited by Admiral Van Warwyck in 1604. From this vantage point the Dutch ravaged the Chinese coast with the object of compelling the authorities to admit them to trade. As a result of this energetic policy the Chinese consented to enter into negotiations. A Dutch official was thereafter sent to Amoy, but as he was required, as a preliminary to discussion, to knock his head upon the ground "so that the bystanders might hear the cracking of his skull," and he had no desire to do anything so degrading, he returned without obtaining an interview. Repairing to Foochow, the Dutch Admiral found the authorities more reasonable, and as the upshot of discussions he obtained from them the offer of a settlement on Formosa, and of openings for trade on condition that the Pescadores were evacuated. China had only a shadowy right to Formosa, but the Dutch were not in a mood at the time to scrutinise titles too closely, and they closed with the tender. Quitting the Pescadores in August, 1624, the Dutch forces appeared before Taiwan and proceeded to construct defences. A fort, afterwards called Fort Zeelandia, was erected on a raised sandbank at the entrance



DUTCH FLEET OFF FORMOSA.

(From "Verwaerloos de Formosa.")

coast resorted to by his craft. Finding himself in a somewhat difficult position through the adoption of this strategy, Koxinga conceived the idea of seizing Formosa, and constituting that a base for further operations. He

immediately proceeded to put the plan into execution by making elaborate preparations for the transport of a very large force to Taiwan. The Dutch Governor (Frederik Coyet) hearing of the ominous activity of the pirate chieftain, took upon himself to detain at Taiwan a Dutch fleet sent from Batavia in July, 1661, to attack Macao. The Council at Batavia, who were too far from the scene to judge correctly of the situation, were greatly incensed at this action, which meant a failure of their plans for the capture of the Portuguese port for that year at all events. Writing home to the directors, they expressed their intense annoyance at what had occurred, ridiculed Coyet's belief that Koxinga might appear before Taiwan at any moment, and expressed the view that the rumours of his intended invasion were "pure inventions of some Chinese." They condemned in strong terms the Governor's barbarous treatment of the natives. "One of the oldest Chinese has been subjected to the most abominable tortures without bringing him to confession. There is not an atom of proof that they are traitors and yet they have been kept for eight months in prison; in the meantime their lands are left uncultivated and their wives and children are starving. The governor cannot see that he is wrong and that all these troubles are of his own making." This unsparing condemnation of the man on the spot was followed by his recall. But Coyet had not long to wait for the complete vindication of his judgment. On the day after his successor had started for Formosa a ship from Taiwan brought to Batavia what the Council described with a stern regard for consistency the "very unexpected and distressing news" that Koxinga had appeared before Taiwan on April 30 with 400 junks, large and small, and had blockaded the entrance to the canal so that the Fort Zeelandia and Saccam were entirely cut off from the town and sea. This was not all. "The *Hector*, *St. Graveland*, and *Maria* had endeavoured to drive the junks from their

to guard the *Maria* on her way to sea." The Governor-General concluded by intimating that "as events have proved we had misjudged Governor Coyet, and a valiant Commander-in-Chief was more wanted than

more material for the barbarian to wreak his vengeance upon save only Fort Zeelandia, which resisted all his efforts. In due course the relief fleet under Commander Caeuw appeared off the town. A gale drove the fleet



DUTCH MISSION TO KOXINGA IN 1661.
(From "Verwaerloos de Formosa.")

a new Governor we resolved to recall Mr. Harman Klencke van Odessa (Coyet's successor) and to send Mr. Jacob Caeuw, who has served in the army at home."* The fleet, it was added in the letter had sailed for Taiwan on July 5 with a strong force of 725 "able soldiers" besides the crew.

This change in dispositions came too late to save the situation, if ever it had been within reach of the measures which the Dutch could at the time have brought to bear upon it. Koxinga, with his army of 25,000 braves, descending like a flock of locusts upon Formosa, was able to maintain a close investment of Zeelandia. An early effort of the Dutch to beat him off was defeated with great loss to the Dutch, and soon the entire island with the exception of the fortress and Fort Provintia was at the mercy of the invaders. Koxinga after this sent letters to the Dutch demanding their surrender; but the communications were for a time disregarded, as it was hoped that relief would be forthcoming. At length, after consultation, the Dutch authorities decided to offer to surrender Fort Provintia, the idea being that if that position were abandoned, the resulting concentration of forces would give the Dutch a better chance. Koxinga said in reply to the delegates that all foreigners must quit the island immediately; he could accept nothing less. The following morning Fort Provintia surrendered. After this, the Dutch withdrew all their people from the town to the fort previously setting fire to the buildings in order to leave the Chinese no shelter. An attack made on Zeelandia was repulsed with great loss to the Chinese. Enraged at the stubborn defence that was offered, Koxinga caused all the Dutch inhabitants in the interior to be sought out and captured. Then followed a chapter of horrors. Some of the ministers of religion were crucified; others were submitted to horrible tortures. The women were shamefully maltreated. Indignities of every kind were heaped upon those who had any sort of connection with the Dutch. The tale of misery went on until there was no

from the shore, and it was not until a month later that it was possible to establish a connection with the fort. By that time Koxinga had so strengthened his position that it would have been folly of the Dutch commander to attempt, with the small force at his disposal, to expel the enemy. The best that he could do was to harass Koxinga's fleet, but the first essay in this direction was not promising. Two of the Dutch vessels went ashore, and a third, with its crew of 118 men, was captured by the Chinese. After this Caeuw assumed a defensive attitude, and was content with merely establishing communications with the fort, which he was able to do owing to the small range of the enemy's guns. In point of fact, the situation had become desperate. In the East it is peculiarly true that nothing succeeds like success. Koxinga's victories over the Dutch brought him immense prestige, and what was more to his purpose a great accession of strength. After Caeuw's arrival, he had no fewer than 100,000 men investing Fort Zeelandia, and he was absolute master of every part of the island save the insignificant sand spit on which Fort Zeelandia stood. In these circumstances, and in view of the dearth of supplies, the Dutch leaders decided that it would be desirable to ship all women and children and other non-combatants on the fleet for transport to Batavia. The step no doubt had been hastened by the news which had come in to the fort of the fate of the women and children who had been involved in the capitulation of Fort Provintia. Definite information was received that when the women were not savagely murdered they were given over to the soldiery. One "sweet and pleasing maiden," the daughter of a clergyman, was reserved by Koxinga for his own harem. It was perfectly clear that if any females fell into the clutches of this monster, they could expect no mercy.

After the removal of the women and children from the Fort, Koxinga relaxed his exertions to some extent, doubtless anticipating that famine would in time do his work effectually. Meanwhile, the Viceroy of Fokien



ACTION BETWEEN KOXINGA AND THE DUTCH FLEET OFF FORMOSA.
(From "Verwaerloos de Formosa.")

position, but ill success befell them. At the very outset the *Hector* had been blown up by an accident to her powder, and the other two vessels were obliged to retire although they remained close to the enemy's fleet in order

* MSS, Dutch Records at The Hague, Vol. XXIV.

sent to the Dutch an offer of assistance in the war against Koxinga if the Dutch fleet would co-operate in securing the expulsion of the remnants of Koxinga's forces from the country about Amoy. The Dutch Council agreed to an alliance on these terms, and sent off five of the ships of the fleet to Amoy. The bad fortune which seemed to pursue the Dutch at this period attended their venture, for three of the five vessels were lost in a storm, and the other two, instead of going back to Formosa, steered a course for Batavia. Disheartened at this dispersal of the fleet, the Council, after some deliberation, decided that it would be wise to surrender, if terms could be made with Koxinga. Negotiations were entered upon to this end, and eventually, on February 1, 1662, the garrison were permitted to withdraw to the ships with all their personal property, while Koxinga agreed to return the ships captured from the Dutch.

Great was the consternation of the authorities at Batavia when the news of the capitulation reached them. "This is the most important defeat the Company has suffered in India," wrote the Governor-General to the directors at home. "Since the beginning of the hostilities we have lost five large vessels, and two small flutes, and no less than 1,200 men. These disasters have frustrated our designs upon Macao. We are, besides, much troubled about the property of the Company in Zeelandia which we surmise must amount to Fl. 10,000,000 (£833,333). We had expected the Governor would have removed the principal effects and merchandises in time, on board our vessels, but he seems even to have neglected this simple precaution and does not even inform us of the measures taken for the saving of the goods." The concluding sentence of this communication clearly indicates that the intention of the Council was to make a scapegoat of Coyet. In a subsequent letter, the Governor-General more distinctly shows his hand. Under date April 22, 1662, he wrote: "Although Governor Coyet had several times before aroused our suspicion by his strange actions we never dreamt that he would have neglected to such an extent the duties of his respons-

ible position as to deliver into Coxinga's hands such an enormous sum of money belonging to the Company which amounted to £1,000,000. He might have deposited it in a safe place before the troubles began, but although he had plenty of ready money he has besides drawn bills upon us for £12,000 and taken from the vessels *Hoogetlande* and *Loenen* money and merchandise to the amount of £11,000 and stored them in the Castle. This cannot be called a mistake; it must have been done with some purpose. Governor Coyet and the members



DUTCH SQUADRON OFF AMOY.

of his Council on their arrival here brought with them shiploads of valuable property. It is, therefore, evident that they have thought more of their own interest than that of the Company. The contract with Coxinga demanded the surrender of all the goods stored in the Castle. As far as the Company is concerned the clause seems to have been sacredly observed, but with regard to their own property they have found means to evade the condition and their insolence is

carried so far that they now loudly claim for recognition of their services and compensation for their losses. This matter must be sifted to the bottom. We have seized all the property of Governor Coyet and the principal members of his Council, ordered them to be kept in prison and tried before the tribunal. We have come to the conclusion that Governor Coyet is a traitor. From his private correspondence we gather that he intended to return to Sweden, and it has been a great mistake to have raised a foreigner to such an important post. He considered himself absolute master at Taiwan and ignored our instructions and deliberately caused our ruin."

In accordance with the decision announced in the above communication, Coyet and his associates were seized on their arrival at Batavia, and cast into gaol. There the unfortunate ex-Governor remained for a considerable period, and during the time was subjected to many insults by his unscrupulous enemies. One day he was actually led out to the scaffold as if to execution and the ghastly farce was carried so far that he was compelled to kneel at the block while the executioner struck him on the neck with the flat of the sword. At length, on June 11, 1665, sentence of banishment for life was pronounced upon him. In the execution of this sentence he was removed to Rosengyn in Banda, and from thence later to Pulo Way. He continued in captivity until 1674, when his children and friends, having petitioned the Prince of Orange for his release, orders were sent out for the abrogation of his sentence. He returned home a broken and prematurely aged man to end his days. Meanwhile, the Dutch Council at Batavia made various efforts to recover their lost territory, and to be avenged on Koxinga, but though they captured Keelung and gained some minor successes, they completely failed in their main object, and in a few years they abandoned all hope of ever again obtaining control of the island. To-day the only relic of the Dutch occupation to be discovered is Fort Zeelandia; but this structure still stands much as it did in Koxinga's day, solitary and grand, a monument to the splendour of the conceptions of the old Dutch empire builders, and a testimony to their constructive ability.

* MSS. Dutch Records at The Hague, Vol. XXV.

CHAPTER XIII.

Growth of Dutch Power in Java—Description of Batavia—Native History—Aid of the Dutch invoked in a Dynastic Quarrel—Admiral Speelman occupies Cheribon—Treaty concluded with the Soosoochoonan in 1677—Renewal of Internecine Warfare—Kartasura chosen as Capital—Dutch obtain Paramount Influence in Bantam—Treaty concluded with the Sultan in 1684—Growth of Dutch Influence in Sumatra—English withdraw from Bantam to Bencoolen.

NOTHING is more noteworthy in the early history of the Dutch in the East than the wonderful recuperative power shown by the Company. Reverses which would have crushed most trading organisations only seemed to be a stepping stone to new and greater triumphs. Formosa supplies a striking case in point. Within a few years of that disaster the Company stood in a higher position than ever it had done before. In the East its power was feared and respected; at home its shares were eagerly sought after

as a sound and safe means of investment. The successes in Ceylon, the Moluccas, and the Celebes were no doubt held, and rightly so, to counterbalance the loss of Formosa, which, though a heavy blow, did not seriously affect the commercial position. Those advantages confirmed the Dutch in their strongly contested monopoly, and made them the practical masters of the chief avenues of general trade in many parts of the Far East. Portuguese, Spanish, English, had all been driven from the field, and for the

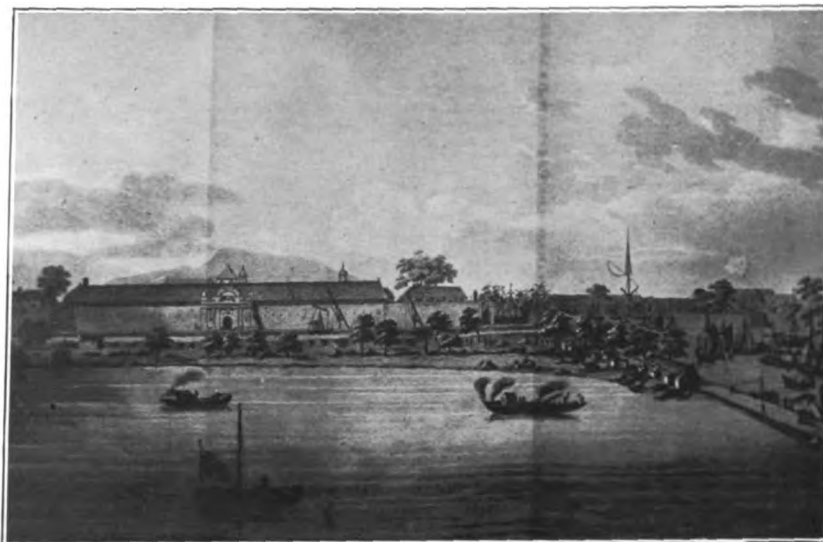
moment no possible rival was in sight. Nor were the Company's advantages confined to the widely separated spheres mentioned above. Both in Java and Sumatra the Dutch influence had been enormously extended by a happy combination of circumstances. Indeed, as far as the former island is concerned, this period in the latter half of the seventeenth century may be said to have been the turning point in its career of conquest there.

An account of the events which led to the

remarkable strengthening of the Company's power in Java must be given, but before entering upon what is a somewhat long and intricate historical recital, we may take a glance at the Dutch capital as it existed at this period. A description written by an Englishman* who lived at Batavia at the close of the seventeenth and the beginning of the eighteenth century, furnishes a vivid glimpse of the aspects and life of the place. He spoke of the city as "a man's sight." "It is," he stated, "five or six miles in circumference; the river Jacatra runs through most streets of the town and almost encompasses it. Upon these canals the inhabitants have convenience of going in their boats to their gardens and summer houses; the sides of them are wall'd up with good square stone, and along each side of it there goes a row or two of fine cedar, coco and fig trees where the freemen used to walk at night, under a most pleasant shade. The Castle stands towards the sea, having four bastions, two of them to the sea call'd the Ruby and the Pearl; the other two to the City which go by the name of the Saphir and Diamond. It is in the whole an exact square, and from top to bottom built with excellent good square stone. On each of these bastions are sixteen demi-culverins planted. Besides this, they are full of fine trees such as lemons and mangos, which make them look most sweet and pleasant. There was lately a third gate built to the Castle which before had but two; one of the gates looks towards the sea, thro' which the goods come in from the ships into the warehouses, and it is call'd the

In the middle of the Castle is the General's apartment, and over against it are the houses of two of the Council. The rest, which are three more, live in the City. The Government of the Indies lies upon these

thrown up against it. The bastions are like those of the Sluys, built with large cut stone and all square and well provided with guard-houses on all sides of it, where the soldiers have their quarters and none of them dare



THE CASTLE AND WHARF AT BATAVIA IN 1810.



GOVERNOR-GENERAL, 1678-81.

Water Gate. The other goeth into the City, which, therefore, they call the City Gate.

*Foye, an English surgeon, who resided for some years at Batavia, and whose account is embodied in a controversial pamphlet published in London in 1712, entitled, "The history of the barbarous cruelties and massacres committed by the Dutch in the East Indies."

six men. The General's retinue is not very sumptuous; he has but twelve halbardiers, dress'd much after the manner of our Yeomen of the Guard, but in red and yellow. One of these is always to stand centinel an hour before his chamber. When he rides out he is attended by a troop of cuirassiers and a company of footmen and six halbardiers. But all this is nothing to his revenue, which exceeds that of several princes of Europe.

"There are in the Castle many other inhabitants, as some of the chief merchants, some assistants and book-keepers; also several handveratts men, as gun smiths, lock smiths, joiners, and such like that are to be employ'd in any military business. The soldiers have their standings under the gates and on the bastions; sometimes more, sometimes less, as they have occasion to send them abroad, or call them home again. Every day, about four in the afternoon, they must come to the parade and pass by the General's House three times, sometimes he comes out, and takes a view of them, to observe their carriage and behaviour and to see whether their arms are kept in good order. When anyone neglects the parade he must expect to be severely punished; for the military discipline is most strictly kept up here. If anyone should chance to sleep upon centry, for the first time his punishment is to be loaded with heavy arms for some days; the second time he is whipp'd; and the third time it is death without remission.

"Within the City are shops for all kinds of merchandise and very good and reasonable victualling houses. The inhabitants are all nations, as Amboineses, Malabarians, Mardigarians, &c. But the Chinese being the chief and greater part I shall pass by all the others and give you some account of them only. They exceed all others by far in cunning and policy; and are very good mechanics.

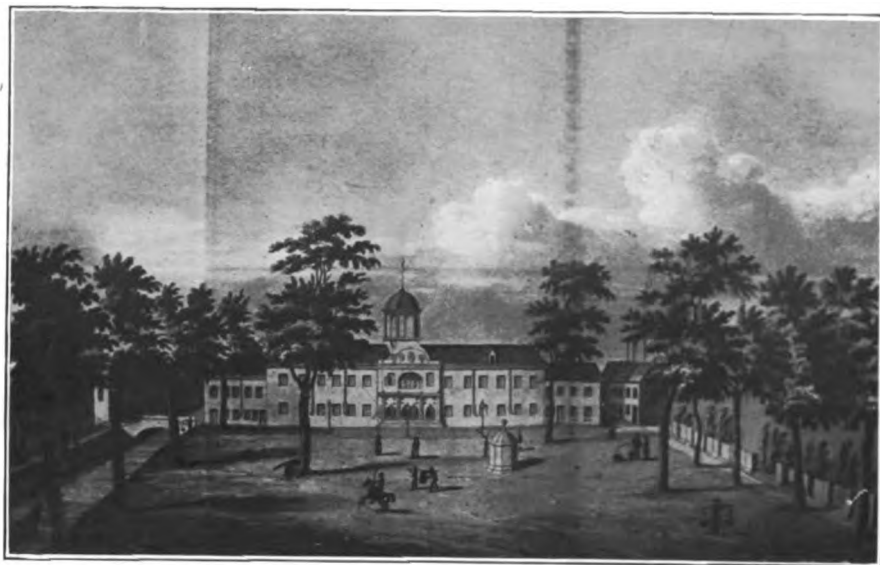
"The City is encompass'd with a strong wall, about forty paces broad and earth

be absent one night from them without special leave and that is but very seldom granted. Besides this, there are canals on each side of the wall all round. The cannon is always ready to turn as well upon the City itself as upon an enemy without, in case of an insurrection or disturbance amongst the inhabitants which are of all nations. So that to be the better prepar'd if such a thing should happen, every street hath a bastion that commands it, from whence they could immediately cut off any party that should be made in any part of the town against the Castle. . . . The four chief gates of the City are call'd by the names of the Utrecht, the Delf, the Rotterdam, and the New Gate, on the outsides of which are the suburbs which are large and spacious and very fine and inhabited mostly by Chinese, a vast number of which have been forc'd by the war they had with the Tartars to retire and seek a refuge in the Indies, over which they have spread themselves, and especially in the maritime towns where they are fallen into trade and commerce with admirable industry and success."

The writer in his account reters enthusiastically to the beauties of the riverside with its "abundance of very fine orchards, fruit gardens, and pleasure houses." At that period the river "was much pestered with crocodiles," and a common sport was fishing for the monsters with a hook baited with a dog or some other dainty morsel. The largest saurian caught by the writer and his friends was twenty-seven feet long, and when opened the captors found in the stomach "two Steen Bockiens and the head of a black boy." When soldiers caught any of these creatures they were accustomed to take the bodies to the Governor, whose practice it was to reward them with "six ducatoons." Crocodile hunting was not the only kind of sport which Batavia knew in these days. Two huntsmen specially commissioned by the Governor-General were in the habit of going daily into the country to obtain what game they

could for the Castle table. They brought in as a rule "wild pigeons and other sorts of wild fowl, wild boars and a sort of creatures they call Steen Bockiens, which is much like a hare, and differs only in that it hath small

the obligation to notice the advent of the great one. But in other directions official punctiliousness was strongly marked, with the general result that Batavia official life in these early days took to itself a certain



TOWN HOUSE AT BATAVIA.
(From an old drawing.)

horns, and the meat of 'em is more delicate." That the pursuit of the game was attended by a considerable amount of danger is clear from a story told of the huntsmen. One day they were out as usual when they were pursued by a tiger. The animal attacked the couple, and made short work of one of them. The other man, severely mauled, managed to get up into a tree and drag the corpse of his companion after him. When he had been there some time, a couple of wild boars came and commenced to scratch at the foot of the tree. The huntsman shot in the direction in which the noise came, and killed one of the animals. When morning dawned, he saw the dead tiger and the boar on the ground below him. Descending from his perch, he made for Batavia, and related his adventure. Subsequently, a guard was sent out to bring in the body of the unfortunate huntsman who had been slain.

The etiquette which marked the comings and goings of the official big-wigs of Batavia in these early days appears to have been somewhat oppressive. When the Governor rode out, he was always accompanied by some of his horse guards, and an officer and two trumpeters preceded the gubernatorial equipage to ensure that proper respect was paid to him. The custom was for every person who happened to be in a carriage on the same road to alight and wait respectfully at his carriage step until the great man had ridden by. When His Excellency attended church, all persons, both men and women, the Councillors of India not excepted, stood up in token of respect. The Governor's lady received the same marks of deference, and was equally escorted by a body of horse guards when she rode out. To a modified extent the members of the Council of India shared in the honours paid to official authority. Thus, when one of the number entered a church, all the men in the congregation stood up as they did for the Governor-General. The ladies in this instance were exempt from

dignified stiffness which was not altogether in keeping with the aims and traditions of a trading company, whose functionaries at that early period were recruited largely from the ranks of the people.

The circumstances of the time no doubt tended to give the heads of the Batavian administration an exalted idea of their own importance, for they were becoming more and more rulers and diplomats, and

at this juncture. In a preceding chapter, the early history of Java has been traced, and it has been shown how, out of the original native kingdoms had been evolved a number of petty coast states under Mahomedan domination, with a larger state in the interior making some claim to overlordship with a ruler who assumed to himself the title of Soosoochoonan, or Emperor. In 1646, there mounted the throne of this central state of Mataram a potentate who has come down in history with the name of Mangkoerat I. Some years after his accession, a plot was formed against his life, with the knowledge of his younger brother, Alit. Intelligence of the conspiracy reached the prince, with the consequence that the instigator of the plot—one Aria Salingsing—was beheaded, together with his son, who was also implicated.

On the intercession of Pangeran Purbaya, says Raffles in his "History of Java," the prince was disposed to be lenient to his brother, as well on account of his age as a strong affection which he bore towards him. Ascending the Royal eminence, the prince ordered the heads of the parties to be brought, and summoning his brother Alit into his presence placed the heads before him, saying, "Behold, the reward of those who have attempted to overthrow my authority. Bring before me without delay all your followers." The Pangeran instantly retired, and not knowing what was to be the result assembled all his adherents and attendants, and informed them of what had passed, when they unanimously agreed to *amok* the Soosoochoonan's party, urging that as soon as the Mataram people saw them commence to *amok*, they would join them. The Pangeran, who was quite a youth, gave in to the plan, and they forthwith proceeded to the *alun alun*, where they were not joined by a single man of the Mataram people. They, however, commenced *amok*, and the people fled in all directions until Pangeran Chakra Ningrat of Madura approached Alit, kissed his feet



(From an early eighteenth-century engraving.)

less and less traders. For a proper appreciation of the nature of the change which came over the administration, it is necessary to understand the various influences that were at work remoulding the Javan dynasties

telling him it was the order of the prince, who was aware of this proceeding, that his person should be seized, but on no account wounded or hurt, and implored him to surrender; but Alit, disregarding his proposal,

drew his *kris*, and stabbed the Pangeran, who died on the spot. The Madurese who witnessed this scene immediately fell upon Alit, who was soon despatched. The Soosoochoonan was deeply affected at the loss of his brother, and in his agitation on receiving the account of what had passed, wounded himself in the left arm; and from this period, the Javan historians state, "he never forgave an offence, however trifling. When he was unhappy he always put to death those who were the cause of his unhappiness, and on the slightest occasion was subject to the most violent gusts of anger." One of the prince's first acts, when the period of mourning had expired, was to wreak a dreadful vengeance on all who had been implicated in the plot. Under a pretext that honours were to be conferred, the chiefs of the four quarters of the capital were induced to summon all the priests within their districts. When they had collected, a gun was fired as a signal, and then commenced an indiscriminate massacre of those present. In all, upwards of six thousand wretched people fell victims to the prince's demoniacal fury. As the prince advanced in years his fits of anger became more numerous, and the day and night were spent in barbarous executions. At length, matters reached such a pitch that a conspiracy was formed to depose him and place on the throne his son, the Pangeran Adipati, who had evinced a kind disposition to the poor. The young prince, entering into the views of the conspirators, formed an alliance with a famous native chief of Madura, named Truna Jaya, and the understanding was made that the latter, proceeding to Madura, should there first raise the standard of rebellion, while the young prince should remain at his father's court to preserve appearances. The plans were frustrated by the appearance upon the scene, at an inconvenient moment, of a considerable force from Macassar. This body occupied the island of Madura and resisted successfully the efforts made from Mataram to dislodge them.

Subsequently, the invaders occupied the provinces of Paseroean, Proboling, Wirasaba, and Japara. After a short interval there was a further invasion from Macassar, and as the Soosoochoonan was powerless to resist the intruders he appealed to the Dutch at Japara for their assistance. According to a report, the Dutch commandant at Japara, in reply to the request, said that the application on the part of the Soosoochoonan "was what the Dutch had been long anxious for, and that he was ready to obey his (the Soosoochoonan's) orders and sacrifice his life in his service." Whatever the credibility of the story, there can be no doubt that the Dutch were very glad to have an opportunity of intervening and so strengthening their hold on the country. The assistance sent by the Dutch consisted of four ships and several smaller vessels with troops. After reinforcements had been received from the Soosoochoonan, a landing was effected to the northward of Madura and a successful attack made on the enemy's position. The chief of the Macassar forces was slain in the conflict and numerous prisoners were taken. The Soosoochoonan, on hearing of the success, collected a second army at Mataram with a view of delivering an attack on another section of the invading force. But before his orders could be carried out a dramatic change occurred in the position of affairs in consequence of an alliance being formed between Truna Jaya and the Macassars. The Pangeran Adipati was included in the arrangement but he was made to play a subordinate part, and when some initial successes had been obtained Truna Jaya proclaimed himself king

and caused himself to be installed under the title of Prabu Mādureta Senapati Ingalaga. Pursuing his successes, Truna Jaya extended his conquest as far as Japara, but here he met the allied forces of the Dutch and the Chief Angéhai Wāngsa-dipa, and was obliged to retreat. As a result of the Soosoochoonan's solicitations, the Dutch a little later got together a considerable force at Batavia and despatched it from that port in December, 1676, under the command of Admiral Speelman. Cheribon was the first objective of the expeditionary force, and it soon fell into their hands. Afterwards, the whole of the coast districts as far as Japara were subdued. A service of real value was thus rendered to the Soosoochoonan, and the Dutch had no difficulty in securing from him in February, 1677, a treaty highly favourable to themselves. Under its terms it was agreed that the Soosoochoonan and the Dutch should assist each other against their common enemies, on the condition that the expenses of the war should be paid by the party assisted, that the Dutch jurisdiction at Batavia should extend to the Krawang River, that the Dutch should be allowed to import and export all species of goods and merchandise duty free, and to



JOHANNES CAMPHUYS.
GOVERNOR-GENERAL, 1684-91.

establish a factory on any spot which they might deem convenient, that Macassars, Malays, and Moormen who had not Dutch passes should not be permitted to trade or settle in the States of the Soosoochoonan, that the Soosoochoonan should reimburse the Dutch the expense incurred in assisting him against the Macassars and Madurese, and that the Dutch should station an adequate force on Japara Hill in order to preserve that place for the Soosoochoonan, which force was to be maintained at the expense of His Highness. Finally, Admiral Speelman was invested with full powers to act on the Soosoochoonan's behalf and to make treaties with the Madurese and the Macassars, while the Soosoochoonan's subjects were required to join him wherever he might arrive.

In May, following the completion of the treaty, the allied Dutch and Javanese forces gained a victory over Truna Jaya, who was obliged to flee to Kediri, leaving a hundred pieces of cannon in the enemy's hands. But after this the Soosoochoonan's star rapidly declined, and, finding it impossible to resist the invading forces, he, in June, 1677,

assembled his family in the dead of night and collecting the regalia quitted his capital with his four sons. On the succeeding day the hostile forces entered Mataram, and finding that the royal birds had flown sent a force in pursuit of them. The Soosoochoonan was making for the Kendang Hills, and had halted at Kajinar with the intention of making a stand. But on hearing of the strength of the pursuing troops, he proceeded with his son, the Pangeran Adipati, to the village Pasiraman, where he was seized with an attack of illness which put an end to his existence. Before his death he thus addressed his son: "You must assume the sovereignty of Java, which has descended to you from your forefathers. Make friends with the Dutch, and by their assistance you may be enabled to reduce the Eastern Provinces to submission. I deliver over to you part of the sacred emblems and regalia of the country; and now let my body be carried to a spot where the earth is fragrant and there let it be buried." The wishes of the dead prince were scrupulously observed. His body was carried to Tegál, the soil of which is reputed to have a sweet odour, and there he was buried a few miles inland from the town. For years afterwards the tomb was held in high veneration, and was known as Soosoochoonan Tegál-wāng'i, or Tegál-ārum; ārum and wāng'i signifying fragrant.

When the obsequies were over, the Pangeran Adipati was strongly urged to assume the reins of government and to establish himself at Tegál until he had collected a sufficient force to attack the Eastern people. But the prince was reluctant to take the responsibility upon himself, and expressed a desire to retire to Mecca to end his days. Ultimately he professed to have a vision which prompted him to obey his father's injunctions and seek the assistance of the Dutch. He accordingly sent orders to Marta Laya at Tegál to collect as many troops as possible, and that personage set himself indefatigably to carry out the orders, hoping to be able to muster such a force that the prince would abandon his design of seeking the aid of the Dutch. Finding by the arrival of the Dutch at Tegál that his hopes were vain, he publicly addressed the Soosoochoonan as follows:—"Sire, I have felt excessive shame in learning that your Highness is desirous of soliciting aid from the Hollanders as if you were yourself in want of men. I am now ready with numerous followers to perform whatever you please, if you will only confer upon me the necessary authority. Give me but your orders and I will myself extirpate your enemies." The prince replied, "What signify your shame, Marta Laya? I have requested assistance from the Dutch because it is always agreeable to rely on one's friends; and it was foretold by my great-grandfather, Sultan Agung, that the Dutch would assist his descendants." Marta Laya held his peace, but he soon showed that he was very far from abandoning the attitude of hostility to the Dutch alliance he had taken up.

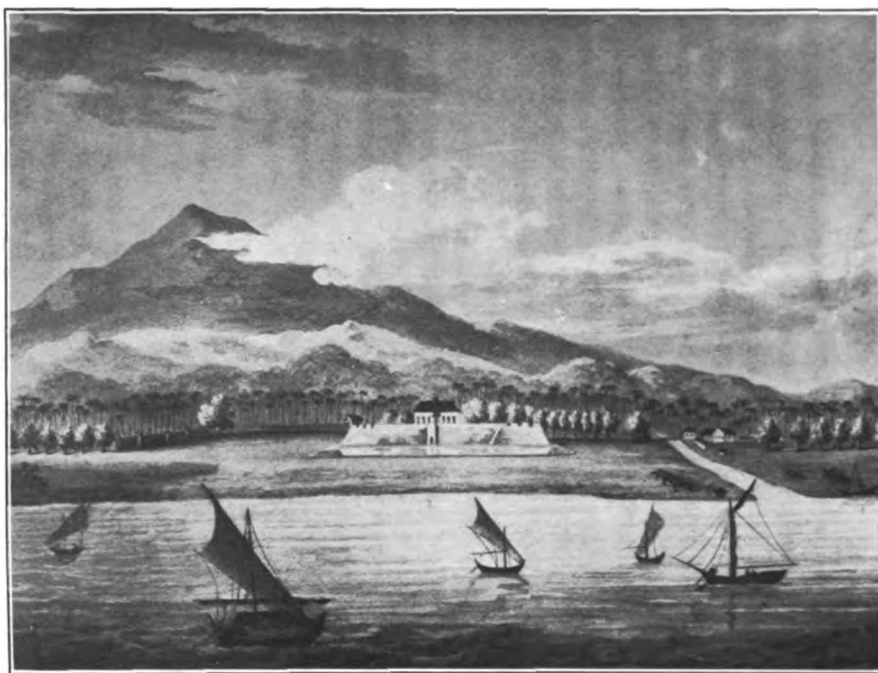
Subsequently the Soosoochoonan, who is known in history as Mangkoerat II., received the Dutch Admiral and a representative body of his officers in state. They attended to offer the prince the assistance of the Batavia Government, and brought with them some valuable presents as a token of their goodwill. Amongst the gifts was a richly ornamented Dutch uniform, to which the Soosoochoonan took such a fancy that he proceeded forthwith to wear it. An arrangement having been come to, the Dutch forces

were divided, one section embarking with the Admiral for Japara and the other accompanying the Prince. At Japara, Speelman found a French vessel and also an English vessel, and he succeeded in inducing both

women to bring him the *kris* named *Kidi Belibar*, which was still unsheathed. As soon as it was delivered into the hands of the Soosoochoonan, he said to Truna Jaya, "Know, Truna Jaya that I have given my

juncture for changing the capital, and there was some idea of selecting Semarang as the site of the new one. But eventually Kartasura, on the road to Soerakarta, was fixed upon. The Pangeran was directed by the Soosoochoonan to attend the court at Kartasura, but he declined, and a combined force of Dutch and Javans marched to Mataram to enforce obedience to the prince's decrees. At the outset the expedition was not particularly successful, but eventually a victory was obtained and the Pangeran fled. A reconciliation between the Soosoochoonan and his brother was, however, afterwards effected, and by this means peace was restored on a firm basis.

By a happy chance for the Dutch, they were able at this period to increase their foothold in Bantam. The circumstance which made this possible was a dispute between two claimants—father and son—to the succession. The former, in 1682, had abdicated in favour of the son, and, repenting of the step he had taken, in 1684 demanded back the throne. By this time the son had tasted the sweets of despotic authority, which in the case of Bantam included substantial monetary privileges associated with the customs dues, and he resisted the effort made by his parent to supplant him. The English took the side of the father, and the Dutch supported the *status quo*. In the end, the young Sultan came out the victor, and the father was sent a prisoner to Batavia. In gratitude to the Dutch for the substantial aid they had afforded, the Sultan agreed to a new treaty highly favourable to the Dutch. This compact, which was signed on August 17, 1684, confirmed the contract made with the Dutch in July, 1650, and greatly extended its provisions. The Sultan, or Rajah, as he is called in the treaty, agreed to give no assistance to the enemies of the Dutch, and to undertake nothing against their friends, particularly the Soosoochoonan, and the Princes of Cheribon. The boundaries between Bantam and the Dutch were to be in future



FORT CHERIBON.

(From Thorn's "Conquest of Java.")

to depart, it was stated by the natives, for a monetary consideration. Operations were now prosecuted with vigour against the rebels and their Macassar allies in Kediri. After making a stubborn resistance, Truna Jaya fled, and the rebel forces dispersed in all directions. In the palace at the town of Kediri was left behind a considerable amount of treasure and the most valuable part of the regalia. The Soosoochoonan was content to leave the treasure for distribution amongst the soldiery, claiming himself only the crown of Majapahit. Great was his disappointment, however, when he found that its most splendid ornament, a large diamond, was missing. Afterwards Truna Jaya was induced to come in with his wives to tender his submission. He presented himself in the hall of audience where the Soosoochoonan was seated with the Admiral and numerous Dutch officers. Truna Jaya on this occasion did not wear his *kris*, but appeared in the garb of a prisoner. According to the native account, Truna Jaya and his wives fell at the feet of the Soosoochoonan, imploring forgiveness for the offence that had been committed, on which the Soosoochoonan replied, "It is well! Truna Jaya, for this time I forgive you. Go without and clothe yourself in becoming apparel and then return to me, when I will present you with a *kris* and instal you as my minister in the presence of all assembled." The Soosoochoonan then gave orders that he should be served with apparel. The heart of Truna Jaya became highly elated; he went out and received the apparel from the Soosoochoonan's people and then returned into the presence, but without wearing a *kris*, as the Soosoochoonan had intimated his intention to present him with one. As he approached, the Soosoochoonan desired his

word that I would never sheath this *kris* except in your body; receive now your death from it in punishment of your offence." Truna Jaya was silent, while the Soosoochoonan, standing up, approached and stabbed him with his *kris* in the breast. Returning then to his throne, he seated himself and ordered his people who were assembled to finish the work which he had begun, whereupon they all fell upon Truna Jaya, stabbing him in a thousand places and cutting his body to pieces. They then severed the head from the trunk and rolled it in the mud, made a mat of it, and at last cast it into a ditch by the express orders of the Soosoochoonan. According to the Dutch historian, Valentyn, Truna Jaya was induced by a young Dutch officer to surrender himself on the promise that his life should be spared, and that the pledge was repudiated by his commanding officer, who was jealous that a junior should have accomplished the feat of bringing in the rebel chief and was anxious to discredit him. Whether so or not, the episode leaves a decidedly unpleasant impression on the mind.

Truna Jaya's surrender, which took place on Christmas Day, 1679, brought a temporary peace, but the elements of disorder were too numerous and too powerful to be disposed of at one stroke. Disturbances soon broke out afresh at Giri and elsewhere, and warlike measures had to be resumed. With the assistance of the Dutch, the Soosoochoonan, however, was able to subdue the outbreak, and in due course he was absolute master of the whole Eastern province. The Dutch now applied for and received permission to build a fort at Semarang, and they entered into an arrangement with the Soosoochoonan for the provision of a suitable force to garrison it. A project was mooted at this



A VILLAGE HOUSE IN SUMATRA.

(From Marsden's "History of Sumatra.")

Tangerang or Outong Java River from its mouth to its source, and thence straight in a line drawn south to the sea, the river to belong to the Dutch with 600 rods of land northwards from the fort of Babakar to the

sea, with liberty to erect such forts or *paggars* on the western bank of the river as should be deemed necessary for purposes of safety. In return for these concessions the Dutch relinquished to Bantam seven-eighths of the debt due from the Sultan to them, thereby reducing it to 12,000 Rix dollars. The Sultan of Bantam by this agreement renounced all pretension to Cheribon, promised not to enter into engagements with other powers, and agreed to receive no factory rent, but to grant the Dutch freely as much ground as they might want for a factory.

On the same day as the treaty was concluded, the Sultan executed a bond in favour of the Dutch, for the payment of the expenses incurred in assisting His Highness against the rebel Sultan and his friend the English Resident. The latter, it is stated in this document, would have received the punishment due to his conduct but for the interference of the Dutch, to whose protection he was indebted for the moderation with which His Highness had restricted his punishment to a final removal from Bantam. The Sultan's debt to the Company was fixed at 600,000 Rix dollars, which the prince promised to pay either in specie or pepper, or by remission of duties. It was also agreed that the Dutch should have the sole trade in pepper and cloths in the countries of Bantam, Lampong, and Silebar. Another deed executed on April 28, 1684, remitted the debt on the condition that the Company should enjoy the privileges mentioned in the bond of April 17 preceding.

On February 15, 1686, a treaty of alliance, offensive and defensive, consisting of thirty-five articles, was concluded between the Dutch and the Sultan of Bantam. Under the provisions of this compact, such of the Sultan's subjects as had settled on the Dutch side of the river were to return to the opposite side. No natives in future were to cross the river except near the Dutch fort, and then they were to show their "chops" (authorisations). No Dutch subjects were to trade without Dutch passes to Serang, Aver, Lampong, and other Bantamese ports. The Dutch were not to leave their factory in the

night, were "not to walk outside the town without the Sultan and the Resident's permission, not to enter the houses of the natives, much less stay there during the night, not to retain any females in their houses or stop them in the streets, to do the accustomed honours to the Sultan, and not to stop and look at the Sultan or his Queen when they were bathing in the river." Vessels arriving in the river were to be visited at the boom by Dutchmen in conjunction with native officers. Bantamese ships were to sail with Dutch passes, or if they were vessels despatched by the Sultan to China, Manila, &c., they were to be given orders to touch at Batavia previous to their return from China to prevent the smuggling of pepper. The pepper grown in the Sultan's territory was to be sold exclusively to the Dutch at fixed prices. The treaty was renewed on December 4, 1687, by Paducca Siry Sultan Aboesulal Mahommed Taja upon his accession, and again on March 3, 1691, upon the accession of his successor, Paducca Siry Sultan Aboul Mahassim Aboul.

With Cheribon important arrangements were also entered into at this period, greatly to the strengthening of the Dutch hold on Java. On January 6, 1681, an agreement was signed with the three chiefs of the state, setting forth the gratitude of those princes for the signal services rendered them by the Dutch, and promising to follow the Dutch Company's advice in all circumstances. The chiefs consented to erect no fortifications without the assent of the Governor-General, who should have leave to establish a station at Cheribon, and to import all merchandise duty free. Further, they agreed that all pepper should be disposed of to the Dutch at the bazaar price, that the trade in sugar and rice should be free to all upon payment of an export duty of 2 per cent. to the chiefs, and that no foreign vessels should be permitted to enter the ports of Cheribon. A second agreement made on September 7, 1680, had reference to some disputes which had taken place amongst the chiefs, and provided measures for their adjustment. Very soon after the conclusion of these agreements

with Cheribon, the Dutch Council was able to concert measures for bringing the important principality and island of Madura under its control. Some disturbances occurring on the island in 1683, the Dutch intervened, and established their authority over the entire area. Thus, the close of the seventeenth century found the Dutch practically masters of the greater part of Java and its dependencies.

On the adjoining island of Sumatra, the Dutch interests had before this period been materially advanced in several directions as opportunity offered. As we have seen in the early part of the narrative, the Dutch at the very beginning of their connection with the East sent envoys to Achin and established relations with its sovereign. At various times the connection was broken for good and sufficient reasons on the part of the Dutch. There was one such rupture in 1650 in consequence of the massacre of a Dutch contingent in Perak, in the Malay Peninsula, which state was under the influence of the King of Achin. As a punitive measure, a blockade of the coast was established, and in 1662 the King agreed to a treaty of peace, which conferred upon the Dutch some important privileges. Two years later war again broke out, and the Company entered into an alliance with the chiefs of the west coast to drive the enemy from there. An establishment for trade purposes was formed at Padang, and became the object of persistent attacks by the King of Achin's supporters. Ultimately, however, the King's authority was limited, and the Company was able to maintain this and other factories without reference to him. At about the same time a permanent settlement was made at Djambi, where the Company, as well as the English, had long had factories. In these ways, the foundations were laid on Sumatra of rights which, more than a century later, were to become of the utmost importance. Meanwhile the English, driven out of Bantam, had taken refuge in Bencoolen, in Sumatra, which for many years, until the occupation of Penang, was their only station in the Eastern seas south of India.

CHAPTER XIV.

New Treaty between the Dutch and the Soosoochoonan concluded in 1703—Continuance of the Civil War—Chinese Rising—Wholesale Massacre of Chinese Inhabitants of Batavia—Mission to the Emperor of China—Chinese join Forces with the Disaffected Javanese—Massacre of the Dutch Garrison at Kartasura—Dutch conclude further Treaties with the Soosoochoonan—Madura attacked and occupied by the Dutch—Revolt against the Soosoochoonan—Treaty concluded in 1749 giving the Dutch practically the Sovereignty of Java—Governor-General Valckenier's *Coup d'Etat*—Valckenier's Downfall and Death.

In the early eighteenth century the Dutch were not slow to take advantage of the position of commanding influence which they had secured in Javan affairs in the later years of the last century. On the death of the Soosoochoonan, his son, known as Mangkoerat Mas, would have succeeded him in the ordinary course. But the Batavia authorities were opposed to him and favoured the pretensions of a rival, Raden Sürja Kasuma, a son of Pangeran Pugar. After some negotiations, in which they endeavoured unsuccessfully to secure Raden Sürja's

promise of the cession of the provinces of Demak, Japara, and Tegal, as the price of their assistance, the Dutch made preparations to support his cause by force. On June 19, 1704, the Pangeran Pugar was publicly installed at Semarang. Afterwards the allied Dutch and Javanese forces marched to Kartasura, which, on their approach, was evacuated by Mangkoerat Mas. All the chiefs who remained submitted to the new authority and were received under its protection, with the exception of the son of Pangeran Pugar, who was strangled. The

title assumed by Pangeran Pugar, with the concurrence of the Dutch, was Soosoochoonan Pakabüana Senapati Inggalaga Abdul Rachman Panatagama, which is thus rendered in English by Raffles: "The Saint who is the nail of the Empire, the Chief Commander in war, the slave of God and the propagator of the true faith." On October 5, 1705, the Soosoochoonan signed an agreement with the Dutch confirming them in all their privileges, and ceding them the district of Gebang. The Soosoochoonan further acknowledged Cheribon as an independent state, resigned to the

protection of the Dutch the countries of Súmenap and Pamekasan, and renewed and confirmed the cession of Semarang and Kaligáwe. The Dutch were also given the ports of Torbaya and Gumulak, on condition



GOVERNOR-GENERAL, 1704-9.

that the tolls continued to be collected for the Soosoochoonan's own benefit. The Dutch, on the other hand, agreed to restore about fifty villages which belonged to Demak and Kaligáwe. Additional provisions gave the Dutch liberty to establish factories in every part of the Soosoochoonan's dominions, and restricted the Soosoochoonan's subjects from trading otherwise than with the Company's passes, and absolutely prohibited them from visiting the Eastern Governments or Buton, Timor, Bima, &c., on pain of the confiscation of their vessels. Various debts due to the Company were remitted on the understanding that the Soosoochoonan supplied the Company during twenty-five years commencing in 1706 with 800 lasts of good rice annually, deliverable at Batavia in His Highness's own vessels. On October 11, 1705, a further contract was made by which the Soosoochoonan agreed to bear the expense of keeping a detachment of two hundred men belonging to the Dutch Company at Kartasura.

In the meantime, the deposed prince, Mangkoerat Mas, was making efforts to recover his lost inheritance. Collecting a great body of men, he joined forces with a famous Javanese chief, named Surapati, in Kediri. He was followed here by a combined Dutch and Javanese force, and in 1706 heavily defeated. Later he fell into the hands of the Dutch, and was sent to Ceylon to end his days in captivity. The removal of the unfortunate prince did not bring peace, and in 1712 the Soosoochoonan was so severely pressed by his rebel subjects that he implored the Dutch to go to his aid against the chiefs of Balemangan and of the island of Madura, as well as against the sons of Surapati, who had their hiding place in the mountains. The Dutch in reply pointed to the enormous expenditure

they had already incurred on the Soosoochoonan's behalf, and exhorted him to adopt a more circumspect policy in future. Soon the chiefs of Sourabaya, Probolingó, and Kediri joined the league against the Soosoochoonan, and the Dutch had to intervene in their own interest. The rebels were so strong that at the outset they gained considerable advantages over the combined Dutch and Javanese forces. It was not until 1717 that the Dutch, having put a considerable force into the field, were able to make any impression upon the rebel hosts. The pressure they then brought to bear upon the enemy induced one of the leaders, Pangeran Chákra Deningrat, to surrender. The manner in which his submission was tendered and the tragic result are related by Javanese writers. A Dutch ship arriving at Madura, Pangeran Chákra sent a message to the captain saying that he was prepared to throw himself upon Dutch protection. The captain referred the matter to his superiors at Sourabaya, and was told to take the chief and his party on board and convey them to that port. The captain, on receiving this intimation, sent a message ashore inviting Pangeran Chákra to come on board with his family. "Pangeran Chákra Deningrat, who," says the writer, "was unconscious of treachery or duplicity, and consequently void of suspicion, with a joyful heart accepted the invitation, and, accompanied by his family, immediately went off in a small fishing boat. When arrived alongside the ship, the followers who carried the *upachara* (emblem of state) were ordered to go on board: after them the Pangeran himself ascended and then his wife, Ráden Ayn Chákra Deningrat. When the Pangeran came upon deck, Captain Curtis took him by the hand and delivered him over to one of his officers, who immediately led him into the cabin. The captain remained till the Ráden Ayn had ascended, and as soon as she came on deck he likewise took her by

her husband saying, 'The Captain has evil intentions.' The Pangeran, hearing the cries of his wife, became furious, and drawing his *kris* rushed out, and without further inquiry stabbed the Captain. The attendants of the Chief who had come on board with the state ornaments, following the example of their master, raised the cry of *amók*, and immediately fell on the crew of the vessel. The latter, however, were too powerful for them, and in a short time the whole of the Madurese party were killed, together with the Chief and his wife."

For a considerable time after this unfortunate incident the civil warfare continued with varying results until 1722, when the Soosoochoonan died. Of the three sons of the deceased prince, the Dutch chose the Pangeran Adipati Mangkoe Negoro as his successor. He had not been long on the throne before a rebellion in which his younger brothers, Pangeran Purbaya and Blitar were concerned. Their first attempt took the form of an attack on the capital, but they met with a severe repulse and fled to Matáram, where the youngest—Blitar—took the title of Sultan. His brother was satisfied with a secondary authority, under the title of Panambahan Senapati Ingalága. In a short time the provinces of Bánjoemas, Matáram, and Kedu submitted to these chiefs, and a fresh source of anxiety arose in the action of Pangeran Aria Matáram in raising the standard of rebellion in the Grobogan and Blóra. The position of the newly elected Soosoochoonan thus became precarious, and doubtless he would not have been able to maintain his throne had not the Dutch energetically intervened on his behalf. They managed by a ruse to get Pangeran Aria into their power, and then, having joined forces with the Soosoochoonan, marched against the rebels. In the battle which ensued the revolting forces were defeated and compelled to retreat to Kediri. They



MALAYS OF JAVA.

(From Daniell's "Picturesque Voyage to India.")

the hand, and after the European manner kissed her cheek. Not understanding the custom she became alarmed, and thinking that Captain Curtis was offering an insult to her, screamed out and called aloud upon

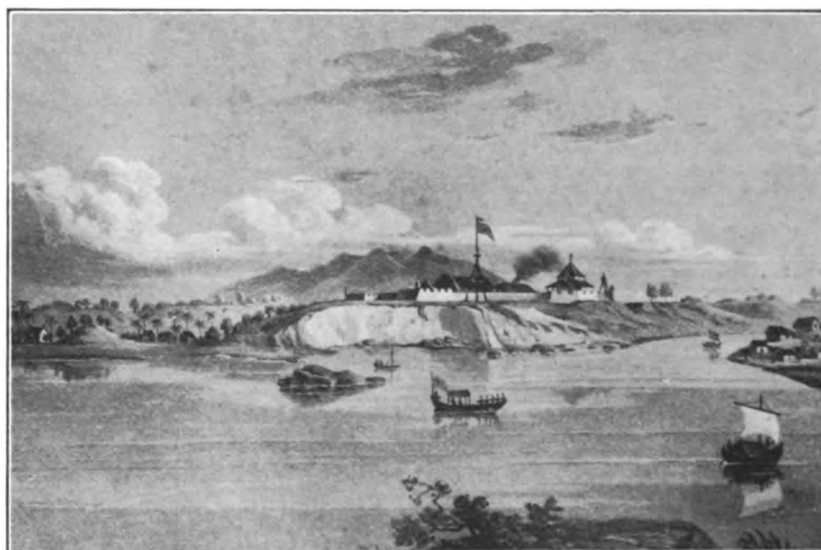
were pursued and again beaten, and finally driven in disorder to Málang. The Sultan fled to Gunnug Dampúlan with only a few followers, but his brother rallied the remaining forces and retired to Lamajang. Shortly

afterwards, the Sultan, worn out with the fatigues of the campaign, died, and his followers took his body to Kartasura and threw themselves on the mercy of the Soosoohoonan. The prince caused the leader of the force, Jāva Brāta, to be executed, and meted out punishment to others of the party, but he gave his brother's body honourable interment. Meanwhile, the remnants of the rebel force still held out at Lamajang, and it was not until Dutch troops had been despatched from Sourabaya that they were induced to submit. During the remainder of Soosoohoonan's reign, peace prevailed in the country. On his death, in the Javanese year 1657, he was succeeded by his son, a child of fourteen, under the title of Soosoohoonan Senapati Ingilaga Abdul Rachman Sahedin Panatagama.

At about this period a new element of discord was introduced into the situation by a rising of the Chinese colony, culminating in a great massacre of the Chinese inhabitants of Batavia, and a long sequel of disturbances in the districts of the interior. The episode is one which has given rise to much controversy, and as there were excellent reasons at the time for concealing the facts, it is difficult at this distance of time to discover the truth. A narrative supplied by Ary Huyshe, a Dutch writer, bears the impress of impartiality and may probably be accepted as accurate in all main essentials. It seems that in the early years of the eighteenth century there was a great influx of Chinese into Batavia. A notable proportion of them were bad characters—men who had "left their country for their country's good." Their presence in the Dutch capital was made known by a series of robberies and murders which inspired terror amongst law-abiding citizens. "The famous Van Imhoff, who was at that time a member of the Council, proposed, in order to get rid of these useless and dangerous newcomers, that every Chinese who could not

number of Chinese were seized and put in irons; but imprudently, several Chinese of property were secured by the under officers charged with the execution of the order, and were only liberated on paying large sums

whole Christian settlement, began by ravaging the country in the wildest manner, burning the sugar works and marching down to the gates of the city. Here, however, they met with a severe repulse. The civil and military



FORT JAPARA, JAVA.

(From Thorn's "Conquest of Java.")

of money. This occasioned great murmurs and led the rest of the nation to credit a report which was spread abroad, that those who were unable to pay would be drowned or otherwise put to death. They in consequence retired by thousands from the city towards the interior parts, and strengthened

inhabitants united in resisting them, and drove them back again into the country. During these commotions the Chinese who resided within the town kept themselves perfectly quiet; and in order that these innocent people might not be exposed to insult, the Government issued an order prohibiting them from leaving their houses after six o'clock in the evening and ordering them to keep their doors shut. This prudent precaution was, however, not sufficient to protect them from the fury of the irritated soldiery and sailors who were in the city, and had witnessed the devastations of the Chinese without the gates. Suddenly and unexpectedly an instantaneous cry of murder and horror resounded through the town, and the most dismal scene of barbarity and rapine presented itself on all sides. All the Chinese without distinction, men, women and children, were put to the sword. Neither pregnant women nor sucking infants were spared by the relentless assassins. The prisoners in chains, about a hundred in number, were at the same time slaughtered like sheep, European citizens, to whom some of the wealthy Chinese had fled for safety, violating every principle of morality, delivered them up to their sanguinary pursuers and embezzled the property confided to them. In short, all the Chinese, guilty and innocent, were exterminated. And whence did the barbarous order by which they suffered emanate? Here a veil has been industriously drawn, and the truth will probably never be known with certainty. The Governor-General, Valkenier, and his brother-in-law, Helvetius, were accused by the public voice of directing the massacre; it was never proved upon him."

The Dutch authorities were very apprehensive that the sanguinary episode would excite the deep resentment of the Chinese Government, and they sent a letter to the Emperor of China in the following year to apologise for the measure. In the



FORT RAMBANG, JAVA.

(From Thorn's "Conquest of Java.")

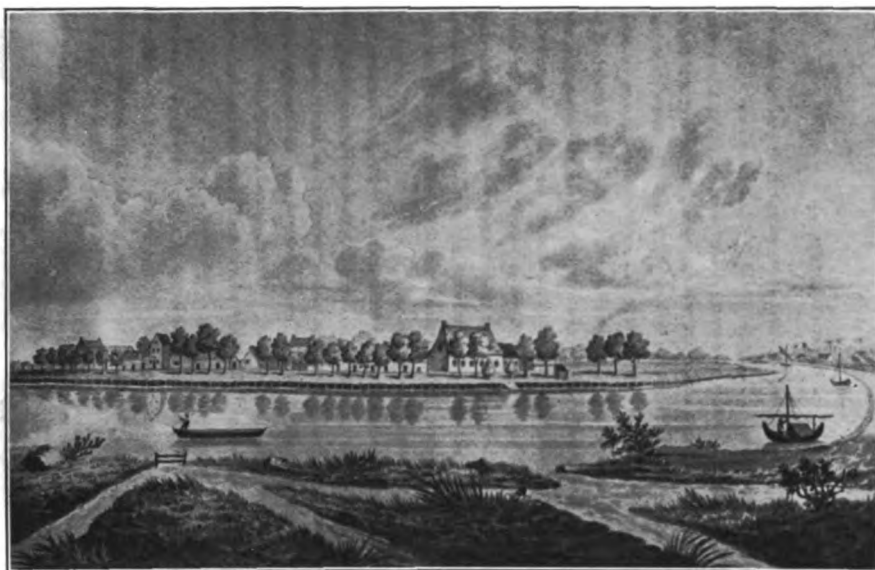
prove that he had an honest livelihood should be seized and transported to Ceylon, there to be employed in mining or other labour for the service of the Company. The advice was approved and immediately followed. A great

themselves so much as to render the fate of Batavia itself precarious. In this dilemma the Council first offered an amnesty to the discontented Chinese, but this they rejected with scorn; and purposing to exterminate the

communication was given a relation of the circumstances of the massacre, and the only substantial point in which it differs from Huijshe's narrative is that it contains an allegation that some Chinese within the

a pre-arranged sham attack on the Chinese, and when the Dutch troops arrived, he, as a proof of the deadliness of the combat in which he had been engaged, showed them three wounded horses, which he alleged

The settlement caused great umbrage to the Soosoochoonan's minister, Nata Kasuma, and he, working upon the fears of the Chinese, was easily able to set on foot a new movement, having for its object the deposition of the Soosoochoonan and the driving out of the Dutch. The Chinese forces at Pati and Jawana were joined by many Javanese chiefs, and the leaders proclaimed as Soosoochoonan, Raden Mas Garendi, son of Pangeran Tapa Sana, a prominent chief who had recently been put to death by the Soosoochoonan, and grandson of Mangkoerat Mas, the deposed Soosoochoonan, who had died in Ceylon. Nata Kasuma, whose part in the rising had been concealed, returned to Kartasura, but the Dutch becoming acquainted with his actions, or at all events suspecting his enmity, made him prisoner and deported him to Ceylon. Afterwards the relations between the Chinese and the Javanese became strained, and the outlook for the legitimate Soosoochoonan improved, as the Dutch with a large force of Madurese went to his assistance. The Chinese in November, 1742, were defeated in a pitched battle at Asem, and the Soosoochoonan, who, under the stress of the war, had for some time been a fugitive from his capital, was again installed in his palace. But his sojourn there was short lived, and he was soon again a wanderer. Once more the Dutch rallied to his side and re-established him on his throne; but they did not do so without exacting from him, as the price of their services, a treaty which gave them further extensive privileges. The Chinese shortly afterwards tendered their submission and their leader was sent a prisoner to Ceylon. One of the first steps of the re-installed Soosoochoonan was to remove the seat of government from Kartasura to the village of Solo, in pursuance of an ancient custom which rendered the evacuation of the capital necessary whenever the dynasty was subjected to some great misfortune. The



SOURABAYA RIVER.

(From Thon's "Conquest of Java.")

city had set fire to it in various quarters, and were preparing to rise upon the Europeans. The letter admitted that the innocent were killed along with the guilty, but sought to excuse the fact on the plea of necessity. To their surprise, the deputies who took the letter found the Chinese Emperor supremely indifferent on the subject of the outbreak and its dreadful sequel. He caused them to be informed that "he was little solicitous for the fate of unworthy subjects who, in the pursuit of lucre, had quitted their country and abandoned the tombs of their ancestors."

Although the Emperor of China was thus unconcerned as to the fate of his subjects, the Chinese in Java took care to keep the incident alive. Comparatively secure in their strongholds in the interior, they set themselves to the task of arousing the country against the Dutch. With such a wealth of inflammable material as the disaffected Javanese constituted to work upon, they had no difficulty in getting together a force strong enough to threaten seriously the Dutch positions. The Soosoochoonan vacillated between his desire to support the Chinese and his fear of the Dutch. Eventually he decided to help the Chinese against the Dutch, in the hope that a situation would be created which would enable the Javanese to regain their full independence. In accordance with this arrangement, a prominent official, Merta Pura, was sent on a secret mission to the Chinese, at Grobogan, and arranged with them a joint plan of campaign. Afterwards, he made application to the Dutch commander at Semarang, telling him that he had orders from the minister to attack the Chinese, and requesting to be supplied with ammunition. The Dutch official unsuspectingly complied with his request, furnishing Merta Pura with a quantity of arms and ammunition and sending also twenty soldiers. Merta Pura, in the meantime, had commenced

had been shot under him. This piece of deception was part of a policy of trickery which was followed with considerable success. Eventually the Dutch forces, with their faithless Javanese allies, withdrew to Semarang, which was soon besieged by the Chinese forces. In addition to maintaining a close investment of this place the Chinese attacked and destroyed Rembang, and so closely pressed the Dutch elsewhere that it was deemed prudent on the part of the Government to withdraw all troops from Jawana and Demak. Emboldened by the success of his duplicity, the Soosoochoonan decided to massacre the Dutch garrison at Kartasura. At his orders a body of Javanese troops was collected near the fort as if to march against the Chinese, and when all was in readiness the signal for attack was given. A desperate rush was made on the Dutch, but was repelled with heavy slaughter. Afterwards some Chinese came to the aid of the Soosoochoonan's forces and so severely pressed the garrison that the Dutch commander felt compelled to surrender. He was promptly put to death, together with his principal officers. The rank and file were spared, but it would have been better for most of them if they had shared the fate of their officers, for they were barbarously treated. The Dutch soldiers and children were given over to the Javanese soldiery. The Dutch authorities, now thoroughly alive to the seriousness of the situation, made strenuous efforts to stem the tide which was running so strongly against them; but excepting in Madura, where, with the aid of the Pangeran, they gained a success over the Chinese, they were able to accomplish little. At last a composition was entered into with the Soosoochoonan, the main condition of which was that the Dutch obtained the cession of Madura, the sea coast and Sourabaya, with all the districts to the eastward as far as Balembangan and Rembang, Japara and Semarang, with all their subordinate posts.



A JAVANESE DANCING GIRL.

(From Raffles' "History of Java.")

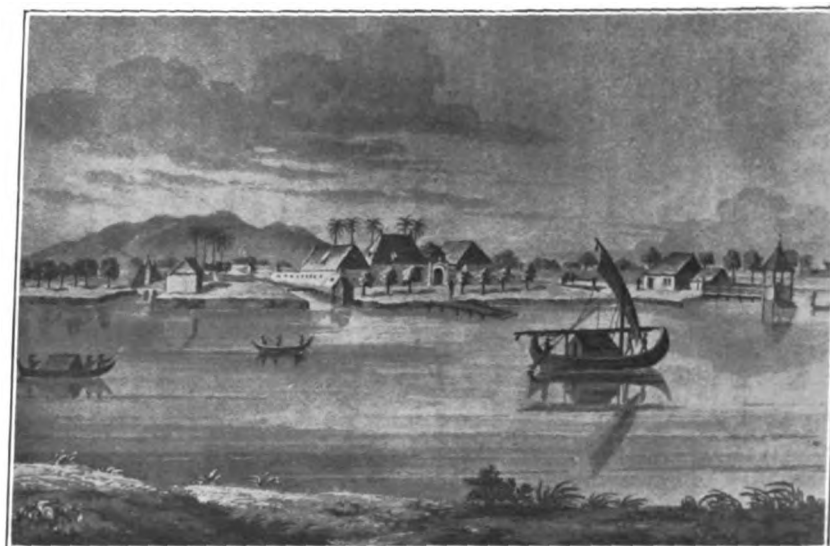
Dutch Governor-General, Van Imhoff, being of opinion that sufficient restitution had not been made for the massacre of the Dutch garrison at Kartasura, made a demand upon the Soosoochoonan for the surrender of the

ringleaders. This order was obeyed, and yet another treaty was entered into carrying again further the jurisdiction of the Dutch. Peace, however, was still very far off, for before long a new and very serious cause of anxiety for the Dutch arose in the rebellion of their quondam ally, the Pangeran of Madura. This chief, a man of overbearing and haughty disposition, considered that he had not received his proper reward for the services he had rendered the Dutch in combating the combined Chinese and Javanese forces and having fortified the island of Menari so as to command the harbour of Sourabaya, made an attack on a Dutch vessel and put to death several European seamen. Simultaneously two thousand Madurese entered the district of Sourabaya, burnt some villages, and laid the frontier waste. An attack made by the Pangeran on Sumenap and Pamekasan was a complete success, the native forces under a Dutch commander being defeated with a loss of no fewer than six thousand. The warfare continued for some time without decisive results, but at length the Dutch forces, landing on Madura, took the capital by storm and soon made themselves complete masters of the island. The Pangeran retired with his two sons, Sasra and Rana Deningrat, to Banjermasin, in Borneo, where he engaged his passage on an English ship bound to Bencoolen. But before he could leave he was seized by the Sultan of Banjermasin, and by him sent to Batavia. Subsequently the Pangeran was exiled to the Cape of Good Hope, and his son Sasra to Ceylon. In the meantime, Sura Deningrat, another son of the Pangeran, was installed by the Dutch as chief of Madura under the name of Secha Deningrat, and in the year 1758 he was also appointed Widana or chief of several of the eastern districts.

Although as far as Madura was concerned the Dutch had every reason to congratulate themselves on the success which their policy had achieved, the general situation in Java still left a great deal to be desired. The

of his subjects. To his evil star it was attributed that the Empire had not only lost much of its ancient grandeur, but was brought to the brink of ruin. The chiefs no longer placed any confidence in him;

that the body of the dead prince could not be removed to the consecrated burial place at Megiri in the southern hills, and in consequence had to be interred at Lawian, near Soerakarta. Mangkoe Boemi



PORT JOANA, JAVA.

(From Thörn's "Conquest of Java.")

they despised the man who had granted such humiliating terms to the Dutch and who, to obtain their temporary aid, had thus sacrificed the permanent integrity of the Empire." It was therefore determined to attempt to throw off the yoke of the Soosoochoonan. The principal movers in the revolt was a younger son of the prince, the Pangeran Mangkoe Boemi, and a leading chief named Paku Nagara. Mangkoe Boemi established himself in the province of Sukawati under the title of Pangeran Adipati of Sukawati. Afterwards he was received into favour by the Soosoochoonan, and confirmed in his position as independent Governor of Sukawati. The jealousy of the Soosoochoonan's minister, Pringa Laya, was aroused by the bestowal of this conspicuous favour upon Mangkoe Boemi, and he represented to the Dutch Governor-General (Van Imhoff) the danger which threatened from allowing such extended authority to a prince so ill-disposed as Mangkoe Boemi had shown himself to be. As a result of these representations, a demand was made upon Mangkoe Boemi for the renunciation of his rights over Sukawati. The prince feigned obedience, but quitting the capital secretly in the night he proceeded rapidly to Sukawati, and there once more raised the standard of rebellion. This act marked the commencement of what is generally known as the War of Java. In accordance with their traditional policy the Dutch cast their sword into the scale on behalf of the Soosoochoonan, but it soon became evident that the task of subduing the rising was likely to prove a formidable one. Mangkoe Boemi and his principal lieutenants had greatly profited by the experience they had gained in the earlier operations, and showed a resource and daring such as had rarely been exhibited in Java warfare. The death of the Soosoochoonan in 1749 found Mangkoe Boemi such absolute master of the country

showed a disposition to come to terms with the Dutch at this juncture, but nothing came of the negotiations owing to the objections of the Dutch to a proposal that Mangkoe Boemi's son should be proclaimed Pangeran Adipati Matärem, or heir apparent. The attitude of the Dutch was no doubt influenced by the fact that before the Soosoochoonan died he had executed a deed conferring upon the Dutch the very widest possible powers. He had agreed (on December 11, 1749) "to abdicate for himself and his heirs the sovereignty of the country, conferring the same on the Dutch East India Company, and leaving them to dispose of it in future to any person they might think competent to govern it for the benefit of the Company and of Java." This treaty practically gave to the Dutch the sovereignty of Java to do with it as they thought fit, and not unnaturally they were not anxious to see whatever was left of the dignity of ruler vested in one so capable and influential as Mangkoe Boemi. They accordingly put forward for the office of Soosoochoonan a son of the deceased prince, only nine years of age. This child was raised to the throne with the title of Pakoe Boewana the Third. Meanwhile, Mangkoe Boemi had caused himself to be formally proclaimed Soosoochoonan, and had rallied to his side a large body of chiefs. Hostilities soon broke out between the rival forces. At the outset Mangkoe Boemi was defeated and driven to the westward, but he soon returned to the charge with a newly recruited body of followers, and conducted the warfare with such energy that the Dutch and their allies were totally defeated on two occasions, the first time at Jamar, a village in Bagalen, and on the second occasion at Tidar, a hill in Kedu. In the first-named action the Dutch were practically annihilated. Those who escaped death by the sword were either drowned in a marsh across which they fled or murdered by the country people. A further



A MADURESE OF THE UPPER CLASS.

authority of the Soosoochoonan had been seriously shaken by the long succession of events which has been described. "The prince possessed," says Raffles in his "History of Java," "neither the esteem nor attachment

victory obtained by Mangkoe Boemi over the Dutch enormously enhanced his prestige, and he carried everything before him. Finding that it was impossible to cope with the power of the prince, the Dutch sought to make terms with him. In this they at length succeeded, and in 1754 they entered into a treaty with him at Ginganti, near Soerakarta, under which the sovereignty of Java was divided between himself as Soosohoonan and the Dutch. In the following year he was pro-

induced to submit himself to the Soosohoonan's clemency, and a more settled condition was reached than Java had known for many years.

The war from 1746 to the end cost the Dutch the enormous sum of Fl. 4,286,006, but they had as a set-off absolute control of the entire island and actual possession of a considerable part of it. Under the agreement made with the Soosohoonan the Dutch reserved to themselves the direct administration

without the cognizance and approval of the Dutch authorities.

In this period the administration suffered very considerably from the bickerings and quarrels of officials. One memorable episode which has come down to posterity as an example of the extremes to which personal animosities were carried in those times relates to the term of office of Adriaan Valckenier, who was Governor-General from 1737 to 1740. Valckenier, as may have been surmised from the accounts of the episode already given, was the official responsible for the massacre of the Chinese, and in regard to this and other matters he was at variance with his Council. Suddenly he fell ill, and in his absence the Council undertook some steps in opposition to his policy. On being informed of the course of events, he arose from his sick bed, and taking with him an armed guard he entered the council chamber, and, marching the men round the table, brought the proceedings to a summary end. This action, reminiscent of Pride's purge of the English House of Commons in Cromwellian times, was the forerunner of even more arbitrary action. The irate Governor-General caused three of the members of the Council—Van Imhoff, De Haaze, and Van Schinnen—to be arrested, and in spite of all their protests had them placed each on board a separate ship and sent to Holland. Van Imhoff had influential friends at Court, and had, in fact, been appointed to the office of Governor-General in succession to Valckenier some time previously. Arriving in Holland on September 10, 1741, he supplied the directors with a defence of his actions, which so completely convinced them that they confirmed his appointment as Governor-General and sent him back in that honourable capacity to the East. Meantime, Valckenier, who was in indifferent health, had resigned office, and was on his way home. On arrival at the Cape on January 25, 1742, he was met by orders from the Court of Directors directing him to return to Batavia to meet charges to be brought against him in connection with his *coup d'état*. Reluctantly, as we may assume, he turned his face once more Eastwards, and landed at Batavia on November 2, 1742, to be confined as a prisoner in the Castle from which a few short months before he had issued edicts which everybody had to obey. For eleven weary years the unfortunate ex-Governor-General continued in confinement without ever being brought to trial. Then, worn in constitution and broken in spirit, he died. His body was buried, as it is put in the record, "without honours"; but, in 1755, on the order of the directors, "the criminal action against Valckenier was abolished by his death," and his arms were put up in the church at Batavia with those of other governors. Van Imhoff, his great rival, continued in the office of Governor-General until his death in 1750.



A GROUP OF GOVERNORS-GENERAL.

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| 1. DIRCK VAN CLOON, 1732-35. | 7. JACOB MOSSEL, 1750-61. | 11. DIEDERIK DURVEN, 1729-32. |
| 2. JACQUES SPECK, 1629-32. | 8. WILLEM VAN OUTHOORN, 1691-1704. | 12. ABRAHAM VAN RIEBEECK, 1709-13. |
| 3. ABRAHAM PATRAS, 1735-37. | 9. GUSTAAF WILLEM BARON VAN IMHOFF, 1743-50. | 13. CHRISTOFFEL VAN SWOL, 1713-18. |
| 4. JOHANNES THEDENS, 1741-43. | 10. HENDRIK ZWAARDECROON, 1718-25. | |
| 5. ADRIAAN VALCKENIER, 1737-41. | | |
| 6. MATTHEUS DE HAAN, 1725-29. | | |

claimed Soosohoonan by the Dutch under the title of Sultan Mangkoe Boewana Senapati Ingalaga Abdul Rachman Sahedin Panatagama Kulifatolah.

An aftermath of the war was an expedition which had to be conducted against Paku Nagara, a chief who still held out against the new régime. In 1758, this individual was

of all the provinces lying on the northern sea-coast from Cheribon to the eastern extremity of the island of Madura, but the inland provinces stretching from the highlands of Cheribon to Malang were restored to the native princes. These were together a considerable tract of territory. Henceforward, however, no important step could be taken

CHAPTER XV.

Waning of the Dutch Power in the East—Defects of the Company's System—Coffee Culture—Sugar—Opium—System adopted in the Spice Islands—Company's Financial Methods—Netherlands Government Appoint Commissioners to Investigate—Abolition of the Company—Establishment of the Council of the Asiatic Possessions—Van Hogendorp's Report—Appointment of the Commission of 1803—Commissioners' Report—Its Great Importance—Daendels sent to Java by Louis Buonaparte—His Policy—Helplessness of Batavia against British Attacks—Construction of Fort Louis—Dispute with the Bantamese—The Sultan Deposed—Formidable Pirate Confederation established in Bantam—Daendels' Administrative Measures.

For a considerable time before the conclusion of the compact of 1758, which may be regarded as the consummation of the Dutch conquest of Java, the power of the Dutch East India Company had been on the wane. The lust of authority which had carried the Dutch flag triumphantly from one point to another in the East, until Holland had an Empire greater than that ever owned by the Portuguese, brought in its train many evils. War was made on very slight pretexts and became an engine of personal aggrandisement instead of a means of advancing the strictly commercial interests of the Company. So much was this the case that we find a Governor-General in the eighteenth century suggesting that officials "found greater profit in war than in peace." The large military and naval establishments which the Company had perforce to maintain were a heavy drag upon its system even in its palmy days, and when lean times arrived, as they did, they became crushing in their oppressiveness. Furthermore, the system followed by the officials of the Company in the enforcement of its spice monopoly was ruinous in its results. By pursuing it, the Company, to adopt a familiar simile, killed

supplies to a ruinous extent and involved the Company in many difficulties.

Yet another potent factor which made for decay was the venality of Dutch officialdom. The administration of the Company's affairs in the East from top to bottom was honey-combed with corruption. A story is told of a man who inquired the meaning of the initials "G.D.H." carved over a gate in the Castle at Batavia. The reply given to him was that they stood for the name of one of the Governors-General. "Then I've been misinformed," said the stranger, "for I understood they meant 'Give up half' (Geef de helft)."

The Company's records themselves bear ample traces of the existence of corruption. Moreover, a commission of investigation sent out to India before the fall of the Company reported that few officials could live on their salaries and supplemented them in illicit ways, and that this state of affairs had always existed. The fact, indeed, was so patent that no serious attempt was made to deny it. The responsibility for the evil rested not with those who practised it but with the system of low payments which was forced upon officials. Like the English East India Company, the Amsterdam organisation set a very low monetary value on the services of its officials. The Governor-General was expected to maintain a princely state on Fl. 1,200 a month, and the scale was never increased from the time it was first fixed in 1624. Councillors were paid in 1720 Fl. 350 a month, the Receiver-General Fl. 130, upper merchants Fl. 130, merchants Fl. 60, under merchants Fl. 40, book-keepers Fl. 30, and assistants Fl. 10 to Fl. 24 a month. The higher officials received in addition to the salaries certain allowances and also rations; but even when a generous addition has been made on this account the emoluments appear contemptible, having regard to the responsible duties which the officials were called upon to discharge. In the circumstances, probably many of them found themselves like Clive under similar conditions of temptation—astonished at their own moderation. However that may be, it is certainly remarkable that a financial crisis was not precipitated in the Company's affairs long before the crash actually came.

In Java, in the early part of the eighteenth century, the defects of the Company's system found prominent expression in the arrangements which were enforced for the cultivation of the territory which came under its control as a result of the agreement entered into with the Soesoehoonan. Coffee, which had been introduced into Java from Arabia at the close of the seventeenth century, was a product of great importance in the list of exports, and special regulations were adopted in regard to it. To ensure an adequate supply, the Government laid commands on the regents, the heads of districts,

for the provision of the amounts required as contingents or forced delivery. As the price of the bean was subject to violent fluctuations, it was not easy to adjust matters.



A JAVANESE IN COURT DRESS.
(From Raffles' "History of Java.")



A JAVANESE BRIDE.
(From Raffles' "History of Java.")

the goose that laid the golden eggs. The wasting of the islands was not only cruel to the natives, it was economically indefensible, inasmuch as in time it reduced the

To make up a deficiency in the Company's revenues, the price paid for the commodity was reduced in 1725, and there was a further reduction in 1726. "The motives and pretexts on which the Company acted," says Mr. Clive Day in his well-known work,* "may be seen in an order of the Executive Committee in The Hague, confirming this action. The document recited the fall of the Company's profits, complained that the natives were growing rich at its expense, and charged them with using their money to buy firearms; it ordered that the price should be reduced one half, and that one half of this lower price should be retained by the Company because of the low state of its treasury, but that interest on this should be paid to the regents, and presents made to them to secure their influence in effecting the change. The amount of coffee delivered to the Company had declined to one half in 1730; natives neglected or destroyed their plantations, in spite of the threats of the Government. In less than five years, however, the Government was

* "The policy and administration of the Dutch in Java."

commanding what it had just before prohibited; it saw no other way to protect itself against the great supply of coffee which it had, it stimulated them to uproot the excessive coffee trees, and it forbade the planting

from one part of the island to the other. These hampering regulations could not but have an injurious effect in the long run upon the industry, and as a consequence upon the Company's interests. But this was not the

"Is it then a wonder," wrote Van Hogendorp, "that some have won millions while the Company has gone to ruin, the people have become poor, and the country is exhausted and waste?"

Yet another method of procedure was followed in reference to opium, which in course of time became a valuable source of revenue. During the Governor-Generalship of Van Imhoff, a company was established at Batavia to work a monopoly under Government auspices. The stock was divided into two shares of 2,000 Rix dollars each, only half of which was called up.

In the course of an interesting account of the operations of the company, Mr. J. J. Stockdale, in his "Sketches of Java," writes:—"The dividends are unequal, yet very large, and the shares sell at a high premium. They are generally in the hands of the Councillors of India. The management of this trade is entrusted to a director who is a Councillor of India, two acting proprietors, a cashier, and a book-keeper. Every chest of opium stands the Company in 250 and sometimes 300 rix dollars, and is delivered to the Society for 500 and sometimes more. On the other hand, the Company is bound to sell this drug to no other. The retail of it produces large profits, as eight or nine hundred rix dollars or more are made on every chest.

"The gain would be more considerable if this monopoly could be strictly enforced for the whole quantity of opium consumed in the eastern parts of India, but notwithstanding that the Company have interdicted this trade to their servants, and especially to the seamen, on pain of death, and have prohibited the importation into any of their possessions by foreign nations, upon pain of confiscation of ship and cargo, yet very great violations of these laws are duly practised on account of the important profit it affords."

An account of the system followed in the islands in regard to the spice trade prepared by a British official at the end of the eighteenth century throws a lurid light on



VIEW OF GRISSEE.

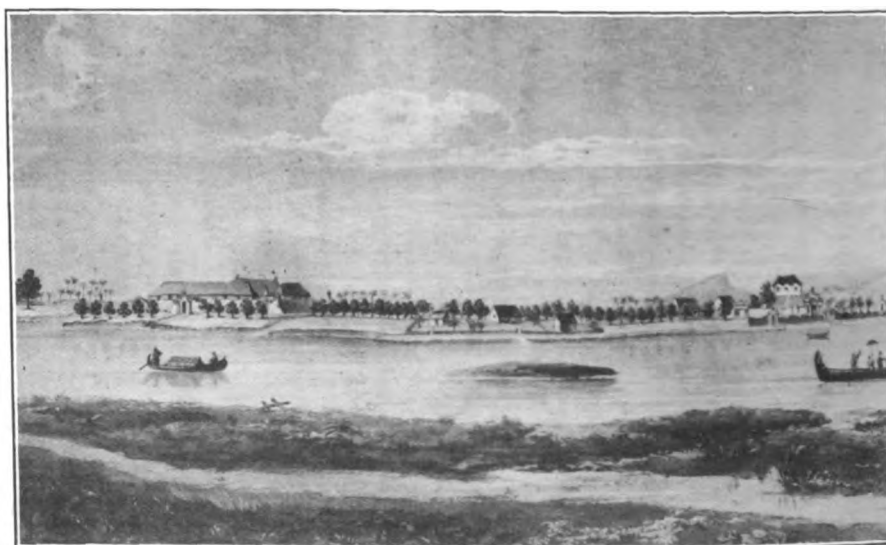
(From Thorn's "Conquest of Java.")

of more. It followed this policy from 1733 on, in various parts of Java, but changed before 1740, and began again to order the establishment of new plantations.

"Up to a certain point it received the product of these plantations at fixed low prices; beyond that the producers must be content to let their crop spoil unless they could market it, in spite of severe penalties, through smugglers. In 1744 native rulers complained that the Company would take from them only a quarter of the crop that they could deliver. The conditions of the coffee culture were more settled in the latter part of the eighteenth century, but the vices of the Company's policy continued as long as itself existed."

In the case of sugar production, a different plan to that adopted in regard to coffee cultivation had to be followed, because the Chinese were the only Orientals competent to produce the article. Here a threefold compact was made, the parties to which were the Government, the Chinese farmer, and the native official. The Government helped the Chinaman to obtain the land and the necessary labour to work it, the Chinaman worked the land, and the native official acted as the lessee and intermediary between the Chinaman and the native labourers. All produce had to be sold to the Government at a fixed rate, and on its part the Government made advances to the Chinaman to pay the necessary charges of working. On the whole the system worked much better than that associated with the coffee industry, but it had its ups and downs. During the early part of the eighteenth century there was a great fall in the price of sugar, and the Government thought it necessary to restrict production and to lower prices. It consequently put a veto upon the establishment of new mills, and even forbade the transfer of existing mills

worst side of the system. Dirk van Hogendorp, an official of the Company in its later years, said that officials used the Company's peculiar policy in the sugar trade to fill their own pockets. They secured whenever they pleased a prohibition on the export of sugar



VIEW OF PASOEROEAN.

(From Thorn's "Conquest of Java.")

and so depressed prices, and were enabled to buy for themselves what quantity they wanted; when they had enough they removed the prohibition, unloaded their stock, and were ready to repeat the process.

the evils of the Company's policy. The writer says:—

"In all the different niggeries (negories) there are certain portions of ground given to the inhabitants called Duty lands, whereon

the clove plantations are established, which are absolutely prohibited in all other places. A register is kept of these Duty lands and the trees thereon numbered once a year, the produce of which the Duty holders are bound to deliver into the Company's stores under the pain of death and at the rate of 56 dollars Rix, for the Bhaaz of 550 lbs. Besides this the regents of the different districts and niggeries are found in a variety of services, such as serving with their fixed proportion of caracoras or war boats for the Hongy expedition, which the Governor and Council perform annually in October and November to see that the clove trees are cut down and destroyed in all other places but those granted as Duty lands, to prevent the smuggling of spices, and to inspire and keep alive in the minds of the people the terror of the Dutch arms and the respect due to their authority. They are also to furnish labourers in certain proportions, according to the number of inhabitants, to work at the fortifications or any other public service required at the rate of 1 stiver and 1 lb. rice per man per day, to furnish timber, firewood, bricks and lime and other things at certain very low rates regulated by custom and acquiesced in by the inhabitants, who had no other alternative but obedience or punishment; and they are, moreover, obliged to give 20 lb. weight for every 100 lb. to be paid for, which is a deduction of 20 per cent. from what they ought to receive. The whole of the cloves are given to the Company at the before-mentioned rate and the price of the 20 per cent. overplus weight, divided in certain proportions amongst the Company's servants according to their rank, the Governor receiving 4-10ths of the whole.*

It is easy to understand how the system of administration followed by the Dutch gave rise to laxity and corruption. Plainly, officials must have been more interested in the advancement of their personal welfare than in the promotion of the Company's interests. But if there was a reprehensible slackness amongst the officials in the East, the Company cannot be absolved from its share of direct blame for the circumstance, for apart from the practical incentive it gave to corruption in the miserable scale of pay it fixed, it supplied the worst of examples in its handling of finance. No one knew what the Company's financial position was. Double sets of books were kept in which the business done in Europe and India was kept separately, and a balance was never struck. Furthermore, the books were jealously guarded from the scrutiny of the public. Dividends were no criterion. "Sometimes," says Mr. Clive Day, "no dividends were declared in years when the Company had made money; more frequently dividends were declared in the years when the Company lost money. The tendency was to declare a dividend every year, and most of the two hundred years of the Company's existence were marked by the distribution among the stockholders of sums ranging from 12½ per cent. to 20, 30, 40 or 50 per cent. of the capital stock. . . . When there were no profits, dividends were disbursed with money borrowed for the purpose. This came to be the regular course of action in the later period of the Company, until the declaration of the last dividend in 1782. The Indian accounts show constant losses from 1603 on, and the home accounts were always unfavourable after 1736. The Company lived through most of the eighteenth century on credit, and one of the most

astonishing features of its history is the fact that its credit remained good almost until the last. Verelst, successor of Clive as Chairman of the Select Committee, wrote home from India in 1768, when the Company had long been hopelessly insolvent, that the extent of the credit of the Dutch exceeded all conception. Their bills drawn to an enormous amount in Europe or Bengal or Madras were solicited as favours. Even in 1781 shares of the Company sold for over two hundred." The facts given as to the extent of the Company's credit are the more remarkable in view of the manifest decay of the Dutch trade in centres where it was once supreme. In 1747, the Company's sales at Bantam are said to have been scarcely worth the name. When the Governor of the North-East Coast arrived at his post in 1753, he found his warehouses full of manufactures, cloth and other goods, which had long been lying unsaleable. The Company did practically no business there. Mr. Clive Day, in a brilliant analysis of the Company's position, expresses the view that commercial competition was the chief cause of the decline of the Company's trade in the eighteenth century. The Dutch monopoly, he says, was never perfect. The Arabs and the English continued to compete and glutted the markets with goods. "The English were driven out of Bantam and out of other posts that they occupied in the archipelago, but the attractions of the trade, the weakness of the Dutch commercial competition, and the corruption of the Dutch administration made their return inevitable. English, French, and Dames shared in the trade that the Dutch claimed as their exclusive possession, and the competition of the first two nations named was the more formidable as their trade was conducted in part by individual entrepreneurs. In the middle of the eighteenth century the Dutch were being undersold in their own market, and as the English increased their power on the continent of India they extended their commercial intusion in the islands. Before the end of the century the Dutch were forced to admit that their attempt at monopoly was a failure."

So pronounced was the decay of the power of the Company that the Batavian Government found it difficult to protect Java from the inroads of pirates, and in 1778 were constrained to make a direct appeal to William V. of the Netherlands for help, averring that they did so because the directors returned no answers to their appeals. In 1780 a new source of anxiety for the Dutch in the East arose in consequence of the outbreak of war between Great Britain and Holland over the enforcement by the former of the Shipping Laws. An expedition was sent by the British authorities in India against Negapatam, and this place was captured, together with all the Dutch posts on the Coromandel coast. Afterwards the Dutch establishment on Sumatra was reduced, and in 1781 the fortress of Trincomalee was captured, only, however, to be subsequently re-taken by the Dutch.

As a consequence of the desperate condition into which the finances of the Company had fallen, the Netherlands Government established commissions to effect reforms in the colonial system; but matters had then got beyond the stage in which the application of remedies could be effective. A crisis came in 1793, when the Company had to admit that they were unable to carry on any longer, and the Government practically assumed the direction of affairs. In 1795 a law was passed withdrawing the powers of the directors, and in 1798 the Company was absolutely abolished. Under the conditions of this final decree the debts of the Company, amounting to more

than 134,000,000 gulden, were taken over by the State, which appropriated to itself its sources of income. The administration of the territories held by the Company was vested in a body known as the Council of the Asiatic Possessions.

The question of the reform of the system of government pursued in the East had by this time become a burning one in Holland. Although the Company had cleverly managed to conceal the state of its affairs for many years after it had become bankrupt, it was impossible to prevent the truth being divulged when the crash came. The public enlightenment was much helped by a publication emanating from the pen of Dirk van Hogendorp, entitled "Report on the present condition of the Batavian Possessions." Van Hogendorp had been in the Company's service from 1784, and had risen to the position of governor of the eastern extremity of Java, when his bold advocacy of reform in the system of administration brought him into collision with the corrupt official clique which then had the dominating influence in the island. On some flimsy pretext he was arrested, but managed to escape in a ship to British India, and thence proceeded to Holland. On the voyage home he drew up the report which, when published in 1799, caused a great sensation in Holland. In effect the compilation was an uncompromising indictment of the entire system of government, coupled with a ruthless exposure of the corruption and incompetence of the executive. Embodied in the report was a series of practical suggestions for the reform of the administration. Van Hogendorp recommended the transfer of the lands to the common people in property or hereditary lease. By the adoption of this system, he argued, it would be possible to introduce a general tax in kind on the land and a poll tax on persons. He pointed out that the districts farmed out to the Chinese showed that the result of the Chinese policy of giving the cultivator a chance had been to make these districts the most thickly populated and the best cultivated in Java. Van Hogendorp expressed the view that by extending a similar policy to all Java it would be possible to get a tax of possibly one-tenth of the crop more than the Company was then securing by means vastly more burdensome to the people. The report advocated greater freedom of cultivation and of trade. The State should not conduct the trade between Java and home as the Company had done, but should leave it to Dutch merchants under special restrictions. The trade to China and Japan, however, should not be opened, and the spice trade should continue to be kept a strict Government monopoly, while the forced deliveries should be maintained.

Van Hogendorp's views secured wide endorsement in Holland, and paved the way for the Government action which was ultimately taken. This was the appointment on November 11, 1803, of a commission of six persons to report "how in the Company's possessions in East India trade should be pursued and possessions governed that there may be assured to them the highest possible degree of welfare, to the trade of the Republic the greatest advantage, and to the country's finances the greatest benefit." The Commission included Dirk van Hogendorp and another colonial official who had been prominent in opposing Van Hogendorp's plan. This man, Nederburgh, Mr. Clive Day asserts, is responsible for the wording of the report and the charter which were presented in August, 1803, and is credited with the greatest influence in fixing the form they took.

* A brief account of Amboina, Banda and Tidore, Java Records, Vol. X.

The Commission's report rejected Van Hogendorp's proposals, holding that it was impossible to allow the natives freedom in cultivation and in the disposal of their products without a change in the native institutions which would be followed by consequences most dangerous, politically as well as economically. Theoretically, the Commission admitted the system of free trade and money taxes was better for a state than a system of forced deliveries, but in its view any attempt to enforce a policy of the kind in Java would only result in a decline in cultivation, in an enormous increase of salaries, and the impossibility of covering the expense by taxation. The report cited Adam Smith's "Wealth of Nations" to show that the principle of freedom of trade should be applied cautiously in certain circumstances, and recommended that the contingents of the most important articles (coffee and pepper) should be maintained under such regulation as would free them from abuses. The question was discussed as to whether an excess of coffee and pepper over the amount demanded by the Government could be left to be disposed of freely, and the view was expressed that this could not with safety be done. The recommendation was that the whole of these products should continue to be handed over to the Government. It was, however, proposed that the sugar trade should be made free. In regard to administration, the Commission believed that the Government must exercise "rather a system of oversight than a direct government, so that the natives will be left to the authority of their own rulers, with their own manners and customs, under their own laws and legal system." On the subject of external trade, the Commission made some important proposals, subsequently embodied in the charter which the Commission prepared. These led to the abrogation of all the old restrictive regulations, and decreed a free trade in all but Government products (coffee, pepper, spices), firearms, opium, rice, and wood. Henceforward all Dutch citizens were to be at liberty to trade through the Dutch East Indies in all but the prohibited articles, and foreign ships were to be at liberty to call at Batavia and other westerly ports.

A Dutch writer (M. L. van Deventer) described the report as "the most important official document on our colonial policy that, taking the time and circumstances into account, has ever appeared." The statement is scarcely an exaggerated commentary on the Commission's findings, for they practically revolutionised not only the commercial policy which had been pursued from the first establishment of the Company, but introduced an entirely new administrative system. "It made in law the Governor-General independent of his Council, as he had long been in fact, and regulated anew the positions and powers of his subordinates. Provision was made for the improvement of fiscal administration and control. The civil service was closed to all who had not passed an examination in the Netherlands and served for three years as clerk in India; it was to be divided into four classes, and service of three years in one class was a pre-requisite to promotion to the next. Finally, the first condition of any honest and efficient administration was fulfilled in promising that the State would pay such salaries to its officials that they could live according to their rank without dependence on outside gains. In the later colonial constitutions (*Regeerings Reglementen*) amendments were made in the details of the Indian organisa-

tions, and there were great changes in the spirit of the administration at different periods, but the framework of the government has remained substantially as it was fixed by the charter of 1803."

In 1806, certain changes of a liberal tendency were introduced in the charter as proposed by the Commission, and Commissioners were sent out to Java to introduce the new constitution, but before they reached the island Louis Buonaparte had assumed the government of Holland. One of the first actions of this monarch was to dissolve the Council for the Asiatic Possessions, and to send out as Governor-General, Marshal Daendels.

Daendels had been one of the leaders of an abortive rising against the House of Orange in 1787, and, flying to France to escape the vengeance of the authorities, had entered the Republican Army, and, with Pichegru, had taken part in the several campaigns between 1794 and 1797. On the conquest of Holland and the deposition of the House of Orange, he was given supreme command of the Dutch forces. In 1797, Daendels laid before the Republic a proposal that Java should be made the base of operations against the



MARSHAL DAENDELS.
GOVERNOR-GENERAL, 1808-11.

English in the East. A favourable view was taken of the scheme, and he was sent out to give effect to it. Probably serious operations would have been undertaken had not the Dutch fleet been defeated by Camperdown, and the remaining vessels surrendered two years later. The British Government early had news of the project, and when the Marquess of Wellesley went out as Governor-General to India, the conquest of Java formed one of the objects of policy which was recommended to him by Pitt. The matter went beyond this, for Sir Arthur Wellesley (afterwards to become famous as the Duke of Wellington) was nominated as commander of the expedition. The Mahratta War upset the Government's plans, and for the time being the project was laid aside.

Daendels was ill-fitted, either by temperament or training, for the discharge of the duties which devolved upon him as the

practically absolute ruler of a great Asiatic population. He was impatient of anything in the shape of restraint, opinionated and arbitrary, and singularly lacking in knowledge of human nature for a man of his wide experience. The instructions he received from the Buonapartist Government of the Netherlands did not improve his chances of success. He was told that his administration must be kept apart from the previous one, "in order that the abuses that had crept into the latter, should not be imputed unto him." He was further directed to conduct an inquiry into the extent of the accuracy, the reliability, and the applicability of the theories of the State Commission, which had sat to investigate the affairs of the Company, and of the charter of the Asiatic Possessions drawn up by them. Meanwhile, he was to continue the existing system of agriculture, and was to defray the expenses of the Colonial Government by the sale, at Batavia, of the Government produce, with the exception of spices. Separate instructions were issued for the central government, by which the mutual authority of Governor-General and Council was specified, and the right to conclude treaties and to declare and wage war against the native princes was limited to the point of unavoidable urgency, and was further declared subservient to the authority of the Minister of Colonies. These directions were calculated to cause a considerable source of embarrassment to Daendels, who visited Asia for the first time in his life when he landed in Java. But they were not the only obstacle in the way of his policy. He went out to Batavia to find Dutch power at its very lowest ebb. Under the stress of the troublous times in Europe, the defences of the colony in the period prior to Daendels' arrival had been shamefully neglected. There was a total absence, says Van Deventer, of governing capacity, and of a military spirit in the government. "There were no bold decisions, and as a natural consequence weakness or neglect of duty remained unpunished. The increasing audacity of the English fleet and cruisers in the Indian seas must certainly have arisen from their knowledge of the totally insufficient armament of ours. But, uninterrupted as were the series of our losses and defeats, even where, as at the Moluccas, the superiority of strength was unquestionably on our side, there had, nevertheless, been no investigation into the matter, nor any consequent conviction. A single British frigate sailed up the roadstead of Batavia, and captured a fully equipped Batavian frigate, ready for battle, in full view of other armed vessels that could have supported her. The head Government seemed to have only considered it their duty to find excuses for what had taken place, and offered before the Asiatic Council the not very pithy argument that 'it seemed that the captured vessel was not sufficiently manned.' Of another vessel, they reported that 'she had drifted, and, notwithstanding all inquiries, nothing more was heard of her.' The British squadron, under Rear-Admiral Pellew, had, in 1806 and 1807, completed the destruction of the Batavian fleets at Batavia and Grisee, as well as at sea. It could do this with impunity, for not only had its adversary gradually spent all his strength, but also, and principally, because he had lost all self-confidence and had, besides, taken measures which must frustrate the best endeavours. Owing to the insufficient number of the crews of the large ships, Governor-General Wiese laid the

* "The Policy and Administration of the Dutch in Java," pp. 145, 146.

latter up, and landed the greatest number of the former. Had he only put them in the batteries at Batavia! But in November, 1806, they could not even prevent the English sloops from approaching our ships that had been run ashore; and in this manner eight Batavian warships, with a like number of merchant ships that had followed their example, were set on fire in sight of Batavia, and within range of the batteries, without a single effort being made in defence."

This impressive picture of the demoralisation which reigned at Batavia serves as an indication of the depressing conditions under which Daendels entered upon his duties. Able military man as he undoubtedly was, he does not appear to have grasped the essential and dominating factor of the situation that the command of the sea had passed into British hands, and that it was idle to hope for aid from home. One of his first official acts was to undertake the construction of costly works for the reception of "His Majesty's (King Louis's) squadrons in the Indies." This, Van Deventer remarks, was a proceeding that bore evidence more of volition than of sound deliberation. "The works he projected for the coast of Bantam he did not even accomplish, nor did they outlive his administration. He did not even seem to consider that those fortifications presented so many new points of attack for a superior hostile force, and that they had to be defended, whilst neither his human nor his inanimate force was equal to the task. The English soon attacked the still incomplete works at Merah Bay; and when it came to the pinch Fort Louis had to surrender without a single struggle owing to want of means of defence and defenders."

The construction of this Fort Louis was a political as well as a military blunder, for it brought Daendels into direct and bitter antagonism with the native element. So unhealthy was the situation of the fort that the first batch of a thousand workers called up for forced labour nearly all died. A demand for a fresh contingent produced a petition from the Sultan of Bantam for exemption. Daendels peremptorily declined the request, and demanded the dismissal of the Prime Minister, the Sultan's uncle, for opposing the requisition. This demand was complied with, and still Daendels was not satisfied. He sent in a fresh set of orders, including a demand for the removal of the seat of government of the Bantam Sultanate to Anjer. The Sultan, though ready to make many sacrifices for the sake of peace, would not listen to this request that he should abandon his capital, and Daendels, finding how matters stood, deemed it wise not to press the point. By this time, however, the angry passions of the Bantamese had been thoroughly aroused, and, seizing their opportunity, they rose, made prisoners of the European guard at the Sultan's palace, and stabbed the Dutch Resident, Du Puy, to death as he was leaving the palace, after a violent altercation. On hearing of the tragic event, Daendels summoned all the able-bodied inhabitants of the capital to his side, and at the head of this improvised force proceeded to Bantam, which he reached within three days.

Then ensued a dramatic scene which cannot be better described than in Van Deventer's graphic words. "After his troops had surrounded the *kraton* (palace), Daendels rode quite alone up the *passebaan* (principal road) in the midst of a great crowd of Bantam people, who, in wonderment, left him unarmed and soon took to flight. With the

artillery pointed at the gateway, he now demanded an audience for himself. Under the potent pressure of circumstances the greatest number of the Court dignitaries had deserted the Sultan, so that he received his mighty opponent surrounded by only a few faithful adherents. On the entrance of the Governor-General, accompanied by his suite, the Sultan rose to shake hands with him. Daendels took his proffered hand but left it in his own until he had seated himself on the throne from which the Sultan had risen. That symbolic proceeding might of itself have expressed the deposition of the Sultan from his princely dignity, even if Daendels had not exclaimed, 'I am Sultan now!' The Sultan's palace was left to the troops to plunder, and Daendels wrote, 'I had the Prime Minister brought back and shot and his corpse thrown into the sea as an example to others.' Following upon this vigorous action, Daendels declared Bantam "the dominion of Holland," and proclaimed the Crown Prince King of Bantam, to govern his dominion under the King of Holland, on the grounds of the old custom which had always required that the kingdom of Bantam should be governed by kings. In order, however, that this *roi faincant* might never assume too much of sovereignty, Daendels placed over him guardians on the plea that "his mind was not ripe for governing." He probably congratulated himself on having successfully rounded off a very clever piece of business. But he was soon to discover that the settlement he had effected was no settlement at all. The disaffected Bantamese, joining forces with the pirates in the Straits of Sunda, established themselves behind formidable fortifications at Tjoe Boengoer, near Anjer. Daendels sent successive expeditions against them with disastrous results, for in every case his detachments were badly defeated. A larger force despatched to the scene of the disturbances fared no better. At length, Daendels himself headed a powerful expedition, but though he showed great activity he did not succeed in capturing the rebel stronghold. The disturbances went on with unabated violence until 1810, in which year a complete occupation of the Bantamese territory became necessary. When this failed to bring peace, Daendels in despair offered to cede a portion of the country to Pangeran Achmet, the arch rebel, on the condition that he laid down his arms. But Achmet had been in contact with the British at Merah Bay, and was altogether disinclined to make any accommodation. This connection, besides stiffening the back of the native resistance, had important indirect results, inasmuch as it was largely in consequence of the information obtained from this quarter of the straits of the Daendels' administration that the British expedition to Java was decided upon.

Daendels had not only aroused this highly dangerous wasps' nest at Bantam, but he had also contrived to cause umbrage to the princes of Central Java by his ill-advised policy. He ruffled the susceptibilities of the princes by making changes in the ceremonial, which they regarded as detracting from their dignity. He was also very indiscreet in his speeches to them, as, for example, in his statement to the Sultan of Soerakarta that "owing to the abolition of the feudal system in Europe, neither the Sultan nor the Emperor was any longer a vassal of the King of Holland." As a consequence of the Governor-General's policy, the Sultan of Soerakarta became openly disaffected, and made preparations for an organised opposition to the Government. At length he was

compelled to abdicate by Daendels, and his son was installed in his stead. But at the express desire of the young Sultan he was allowed to reside in the *kraton* of Jokjo, and was able still to exercise a very powerful influence on affairs. Daendels' policy in regard to the native princes, Van Deventer says, was "struck with sterility." "Instead of making everything subordinate to the defence of the country against the foreign foe, as his instructions directed, he alienated the princes from the Dutch rule and raised new enemies in the rear. Instead of giving weight to a bold policy by his energy, he, with true revolutionary spirit, reduced everything to a question of strength, in which he would have gone to the wall had the state of things continued longer."

During the whole period of his administration Daendels was greatly hampered in the direction of his policy by the British command of the sea. When he took up the reins of office, the bulk of the Dutch stations in the archipelago were in British hands, and all the main routes were controlled by British cruisers. In view of the difficulties of communication, Daendels reduced the establishments at Macassar and other places in Celebes which were still under the jurisdiction of the Batavian Government, removed the naval establishment from Macassar to Sourabaya, and abandoned the post at Bandjermasin, in Borneo. With a view to carrying on the Government trade, an emissary had been despatched to New York in 1807 to make contracts for the sale of spices and their export in American vessels, which being under a neutral flag were considered to be exempt from the unpleasant attentions of the British cruisers. The arrangements made resulted in the appearance of several American ships at Batavia after Daendels had assumed the direction of affairs. But instead of welcoming the visitors and smoothing the way for their trade, the Governor-General repudiated the contracts made, and replaced them with arrangements carried through by himself. He further forced two of the vessels to undertake coasting work for his Government, with the result that they were captured by the British squadron, and afterwards confiscated. "Daendels' ideas of trade, which may be said to have been engrafted on a military branch, had," says Mr. Van Deventer, "a paralysing and destructive influence in their operation on the internal conditions of Java. The coasting shipping and trade carried on by natives, especially by those on the opposite coasts, together with the neutral navigation, had formed the means by which all sorts of necessities and specie had also been brought to the island. Instead of encouraging them, he levied new impositions on the little vessels and also on the goods of these navigators of the Archipelago, the result of which was that they also went elsewhere, and the Governor-General had to acknowledge 'that the retail trade along the whole coast of Java had died out.' He destroyed without mercy the coasting trade and fisheries by confiscating all boats belonging to the coast people, for fear of their smuggling. Lastly, he added the monopoly of rice to all the others of the company, which acted most distressingly on the native population. The native had hitherto been able to provide himself with this indispensable article in the markets at market prices; he was now compelled to purchase from the Government stores, and prices rose from 30 to 50 and even to 100 reals per coyan. The rash withdrawal from agriculture of a great proportion of the population, who had to work at the newly enacted feudal services,

either in the cultivation of coffee or on the public works and other labours, co-operated to effect a rise of the price of rice. In the course of 1809 this resulted in a scarcity that nearly equalled a famine."

On the purely administrative side, Daendels undertook some important measures in the direction of the establishment of a new system. One of his first steps was to introduce both cotton cultivation and delivery all over the island. Adopting as the basis of his plan the arrangements which existed in the Preanger districts with regard to this cultivation, he devoted a great part of Java to coffee planting, and he put an inspector-general with a number of subordinate officials over the cultivators. The step was an ill-judged one, and produced only a crop of riots and other troubles for the Government. Another of his measures, the placing of all officials on a scale of salaries instead of allowing them to obtain their emoluments from secret and mostly illicit sources, was a move in the right direction, but the form did not go far enough; it did not deal with the source of the evil. How the system worked is well described by Mr. Van Deventer: "All officials were explicitly notified to bring all their former

secret profits from overweights and short payments for the benefit of the Government. The abuse that included an actual extortion of the 'poor Javanese' not only by the forced deliveries, but also by the contingents even of rice, thus obtained open sanction. Daendels himself set the example of obliging the native to deliver his rice to Government at 17 rix dollars the *coyan*, after which he was allowed to buy it back at 30 rix dollars. An enactment was passed by which the capitation and other taxes which the inhabitants formerly paid to their regents and other chiefs could be imposed on the old footing, on 'condition that they should be paid to Government under another denomination,' and because the regents were exempted from a few deliveries of lesser importance, Daendels imposed a new monetary contribution on them, who would naturally as little abstain from recovering the same from 'the people.'"

In the general affairs of the administration, Daendels introduced some salutary changes based mainly on the proposals of the State Commission of 1803. A Chamber of Accounts was established, with, to direct it, an Administrator-General with the real function of a Minister of Finance; a Board of Foresters

was brought into existence, and the management of the Coffee Cultivation was placed under an Inspector-General. The judicial system was overhauled, a notable feature of the changes being the institution of circuit courts to deal with misdemeanours committed away from the capital. In the management of the island's finances, Daendels took credit for good work, but his economies were swallowed up in additional expenditure on new accounts and his increases of revenue were largely mythical. On its personal side the administration left much to be desired. Daendels was arbitrary in the extreme, and carried matters with such a high hand that a cry of joy went up from the European community when the news of his recall was received, even though the prospect was of the passing of the control of their destinies to a European enemy. Janssens took over the Government from him, and Van Deventer describes the situation in these scathing sentences: "Java unsafe from Anjer to Banjoewangie; the people embittered and the nobles meditating defection; all resources exhausted, and the European colony reduced to extremities."

CHAPTER XVI.

British Expeditions to the Moluccas—Lord Minto conducts Expedition to Java from India—Landing at Tjilintjin—Occupation of Batavia—Engagement at Weltevreden—Attack on Janssens' Position at Meester Cornelis—Rout of his Force—Subsequent Operations—Surrender of Janssens—Lord Minto's Proclamation announcing the Introduction of British Rule.

ON the resumption of the war with France after the rupture of the Peace of Amiens, the whole efforts of Great Britain were directed to crushing the power of the French Republic at sea, and to capturing her oversea possessions. Naturally, at an early stage, attention was directed to the Dutch East Indies, where the Napoleonic power was seated as the inheritor of the sovereignty which had been usurped in Europe. In the preceding chapter reference has been made to the effect of the British naval operations on the Daendels administration, but some further treatment of the subject is necessary to complete the narrative. Apart from the cutting out expeditions described, the British prosecuted a series of measures with a view to the reduction of the islands held by the Franco-Dutch Government in the East of the archipelago. The first of these expeditions was to Amboina, off which a small squadron under the command of Captain Tucker appeared early in February, 1810. On the 16th of that month a force of 404 men was landed from the ships without opposition, and having been divided into two columns, marched against the enemy's positions. Wannetto, a battery situated on a small hill, was rushed by the first column, and Wayoo, another battery, also soon fell into the hands of the invaders. In the meantime, the second column, under Captain Court, had commenced an attack against Fort Batto Gantong, a strong fortified position in front of an eminence of great height. Once more success attended the movement, but the advantages gained were to some extent neutralised by the punishment inflicted by the shore batteries on the squadron which, owing to a failure of the wind, had been unable to

get out of range after delivering its fire. The night fell, leaving the British in some anxiety as to the future, as they were short of provisions and ammunition, and the enemy's strength was not accurately known.



THE EARL OF MINTO.

However, in the morning a new complexion was put upon the position of affairs by the hoisting of a flag of truce on Fort Victoria, the

principal fortified position. Afterwards, the Governor, Lavinius Haukurlugt, signed the terms of capitulation, and the fort was surrendered on February 19. The settlements depending on Amboina were taken possession of shortly afterwards by the British ship *Cornwallis*. On August 28, a small expedition sent from Amboina effected a landing on Ternate, and by a bold night attack succeeded in capturing one of the principal positions. The island was surrendered on August 31. The garrisons in both instances were forwarded to Batavia, and there Daendels caused Colonel Fitz, the unfortunate commander at Amboina, to be shot. Meanwhile, Captain Christopher Cole, with a small squadron, had effected the capture of Banda in circumstances which were considered at the time to reflect great credit upon the attacking force. But no doubt the defenders here, as elsewhere in the archipelago, did not fight with the determination which had characterised the old Dutch garrisons. They were demoralised by the conflicting political currents of the time, and felt no interest in upholding the new régime.

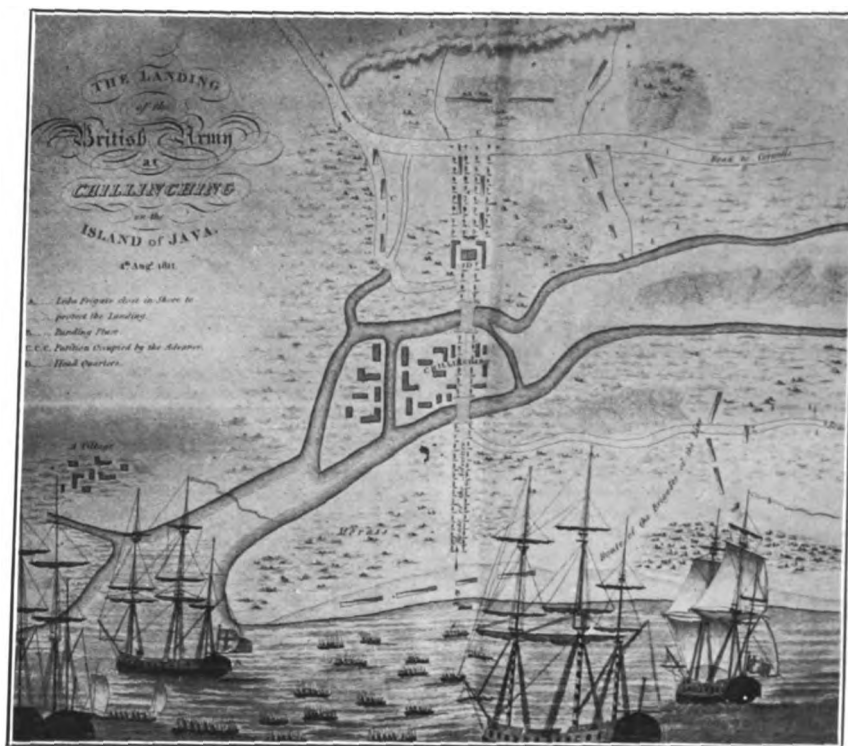
These operations at the eastern end of the archipelago were only the preliminaries of a larger and more important movement directed from India.

In view of impending operations in Eastern seas, Lord Minto, then Governor-General of India, in 1810, had summoned to Calcutta to supply him with information, Thomas Stamford Raffles, an official of the English East India Company, who had distinguished himself in the administration of the Company's settlement at Penang, by the intelligence shown in the discharge of his official duties, and by his wide general

knowledge. Raffles strongly counselled the Governor-General to take up the project of the conquest of Java, which had been allowed to drop in 1803. Lord Minto was much struck with Raffles' arguments, and the facts which he put before him in support of them, and after due inquiry decided to make the capture and occupation of that island the chief aim of his policy. A circumstance which greatly influenced the final decision was the fall of Bourbon, and the fair prospect of success which promised for the expedition which earlier had been sent from Bombay against the Isle of France. When the policy of the Government of India had been definitely settled, immediate measures were taken to give it effect. While Raffles was despatched to Malacca as a sort of *avant courier*, transport was collected in India for the expedition. Eventually a force of about 12,000 men, nearly half of whom were Europeans, were embarked in India, principally at Madras, and in June, 1811, arrived at their rendezvous at Malacca. There was considerable sickness amongst the troops, and 1,200 men had to be left behind when the expedition sailed, and 1,500 others were on the sick list when the fleet of nearly a hundred ships arrived in the Bay of Batavia on August 4, 1811. Nevertheless, it was determined to proceed to an immediate attack. A safe landing having been effected at Tjilintjin, a village about 10 miles to the eastward of the city, the army, agreeably to arrangements made at Malacca, was divided into four brigades, one forming the advance, two the line, and one the reserve. In the supreme command was Sir Samuel Auchmuty, an experienced soldier, who had served with distinction in the wars of the previous twenty years. Under him were Major-General Wetherall, commanding the line, Colonel R. R. Gillespie, commanding the advance, and Colonel Wood commanding the reserve. Without opposition, the infantry of the advanced brigade took up a strong position near the landing place, and on the 5th, having been reinforced by the cavalry and guns, advanced towards Batavia. On the morning of the 6th, Colonel Gillespie, accompanied by the officers of his staff,

Anjole Point, about two miles from the capital. In consequence of the information obtained, the Commander-in-Chief directed

destroyed the previous night. Accordingly, on August 7, the infantry attached to the advance pushed forward and crossed the



(From Thorn's "Conquest of Java.")

the advance to countermarch that evening and take up a new position at Tandjong Priok, about six miles from Batavia. The inactivity of the Republican army, the little appearance of force on the Batavia side of the river, and a very serious conflagration

stream at 10 o'clock at night, passing over a bridge of boats, which had been rowed in after dark for that purpose. By midnight the whole party had passed over without the slightest opposition being offered to their passage, and at daylight the advance had penetrated to positions not more than a mile from the town. On August 8, a summons was given to the authorities to surrender the town, and the Commander-in-Chief's messengers, who took the message, returned with a deputation of burghers, who craved the protection of the Commander-in-Chief. A small party was thereupon sent forward, and occupied the Town House. Their presence gave confidence to the peaceable inhabitants, and put a stop to the plundering by Malays, which had already commenced. Colonel Agnew, Adjutant-General, arrived shortly after, and communicated to the assembled magistrates and native leaders the orders which the Commander-in-Chief proposed to enforce. Afterwards the British flag was hoisted at the Crane Wharf, under a royal salute from the shipping in the Roads. In the evening, Colonel Gillespie, with the greater part of the advance, entered the town, and after the troops had been drawn up in the Grand Square, in front of the Town House, they were dismissed to their quarters. Later, Captain Robison, aide-de-camp to Lord Minto, who had been sent to General Janssens (Daendels' successor) with a summons to surrender the island, returned with an answer to the effect that he (Janssens) was a French general, and would defend his charge to the last extremity. Meanwhile, strong rumours of an impending attack reached the British headquarters, and



DEPARTURE OF BRITISH FLEET FROM HIGH ISLANDS FOR JAVA.

(From Thorn's "Conquest of Java.")

with a small escort of dragoons reconnoitred the road and country all along the coast towards Batavia, proceeding as far as

in the city caused the Commander-in-Chief to decide to attempt a passage of the Anjole River, the bridge across which had been

the troops were silently called out and ordered to lie on their arms in the Grand Square. They had scarcely taken up their positions when the head of the Republican column appeared, and opened a musketry fire upon the British picket, which was stationed at the bridge leading from Weltevreden to the town. Soon the firing became general. Realising the position of affairs, Colonel Gillespie sallied out at the head of a party from a gateway on the west side of the city, and threatened the attacking force in flank. This movement disconcerted the Republicans, and in a short time the entire force was beating a hurried retreat. An attempt was made the next night by a Malay to fire the town, but he was caught in the act, and promptly hanged for his pains.

On the morning of August 10, the bridge over the Anjole river having been made sufficiently strong for the passage of troops, the main body of the army crossed. Meanwhile, the advance brigade, consisting of about one thousand European troops and four hundred and fifty natives, advanced towards Weltevreden. The Republicans were found to have taken up a strong position towards Meester Cornelis. Their right was protected by the Slokan; their left by the Great River, over which there was a bridge at that time in flames. Pepper plantations covered and concealed their line, and an abatis had been felled to block up the road leading to Meester Cornelis, and behind this the Republicans had placed four horse artillery guns, which opened their fire as soon as the left wing of Colonel Gillespie's force came within range. The infantry of the Republicans, who were posted in a wood on both sides of the road, simultaneously commenced a brisk musketry fire. The Republican guns were answered with great effect from one 12 and two 6-pounder horse artillery guns attached to the British advance, and the British sharpshooters also did considerable execution. A turning movement having been made, the British troops charged the guns and drove the Republicans out. An active pursuit, in which the main body of the army joined, was maintained almost up to the central position of the Republican force near Meester Cornelis. In the arsenal at Weltevreden were found upwards of three hundred pieces of ordnance and a quantity of military stores, which the Republicans had abandoned on the British approach.

Practically the action gave the expeditionary force undisputed control of Batavia and the immediately surrounding country. What was almost as important, it supplied them, in the cantonments of Weltevreden, with a most salubrious place of residence for the troops amongst whom, as has been stated, there was considerable sickness. But Sir Samuel Auchmuty was not content to rest on his laurels. He made immediate preparations for attacking the Republican entrenched camp at Meester Cornelis. This was a strong position flanked by two rivers, one on the east and the other on the west, and defended by a number of redoubts. The total circumference of the fortified lines was five miles, and there were 280 pieces of cannon mounted. Defended by a considerable force of troops, a number of whom had only been lately brought out from France, the camp was far too formidable a position to be rushed, and Sir Samuel Auchmuty made very careful dispositions before he delivered his blow. All being ready, the army, on the night of August 20, erected a strong battery of twelve 18-pounder guns to play upon the

left of the Republican entrenchments and a redoubt that overlooked them. Another battery of eight 18-pounders was mounted to the left of the first battery, and there was, further, ready for effective action, a battery of nine howitzers and mortars. On the night of the 22nd, when the arrangements had been practically completed, the Republicans made a sortie, which was repulsed after some fighting, in which sixty-seven Europeans and twenty-nine natives of the British force were either killed or wounded. Two days after this affair the bombardment of the enemy's position was commenced. Janssens' men had mounted many additional guns and replied spiritedly to the attack; but it soon became evident that their gunnery was no match for that of the British. The contest proceeded, however, for some days, and it was not until August 26 that the British commander-in-chief deemed that the position was ripe for assault.

At midnight the troops, led by deserters from the enemy, moved out of their camp, and, after making a wide detour, arrived at a point near the enemy's works. With Colonel Gillespie leading the advance, a lodgment was effected in the enemy's position just as the day was dawning. In quick succession, two redoubts were attacked and captured at the point of the bayonet. A third and larger redoubt was now assailed by Colonel Gibbs, who arrived at the moment with fresh troops, and it shared the fate of the others; but the blowing up of a magazine within the redoubt in the moment of victory greatly added to the casualties. The Republicans now renewed their fire upon the attacking force from their park guns and batteries in the rear with redoubled fury; but the British troops doggedly held on their way, and after about two hours' fighting the whole of the Republican batteries were stormed and taken, and the position was won. Soon the entire force of defenders was in full flight. They were actively pursued by the cavalry and horse artillery and very severely handled. At Kampong Macassar, an attempt to rally was made by the officers, who managed to get into position four horse artillery guns that had been saved from the wreck. But the dash of the British cavalry carried everything before it, and the retreat became a rout. The pursuit was continued with such activity beyond Tandjong Oost, a point 35 miles from Batavia, that very few of the Republican force escaped. Over six thousand prisoners fell into the hands of the British, the number including two generals, two of General Janssens' aides-de-camp, the Chief of Engineers, the Commissary-General and heads of all the departments, five colonels, four majors, and twenty-one lieutenant-colonels. Two hundred and eighty pieces of ordnance, mostly fine brass cannon, were captured, and several stands of colours. Janssens and his Chief of the Staff, Jumel, by mixing with the foot soldiers in the jungle, managed to escape with a small body of horse soldiers. Practically they alone remained of the army which had contested the British advance. The casualties on the British side were severe. In the two columns engaged in the attack, upwards of five hundred men were killed and wounded, among whom were forty-eight officers.

The victory was a notable one, thoroughly worthy of the resolutions of congratulation and thanks which were subsequently passed in the British Parliament. But it has to be remembered that while the British expeditionary force was a compact highly disciplined body, comprising many troops which had been tested

in war, Janssens' force was an ill-organised army composed largely of native troops of doubtful loyalty and even more questionable efficiency. Numerically, the two forces were about equal. British accounts place the number of men who defended the entrenched camp at Meester Cornelis at thirteen thousand men. But Mr. M. L. van Deventer, in his well-known work, pretty conclusively shows that Janssens had with him only about eight thousand men. Still, eight thousand men behind entrenchments ought to have been more than a match for a similar number outside, and that they did not make a better fight was due as much to the incompetence of their leaders as to their own deficiencies. "It is even now," says the author we have named, "quite inexplicable how Napoleon, if he were really in earnest about the safety of Java, could have delegated such a person as Jumel, who with a total absence of military talents coupled a boundless indifference. No advantage was even taken of the confusion inseparable from every debarkation of an army to molest the English on their landing at Tjilintjin in August, 1811. Detachments were specially sent in that direction to speedily receive the order to retreat, and the strong and important post at the bridge at Antjol was abandoned without a single blow. . . . And when at last a sally was made from the camp where they had voluntarily shut themselves up, everything was so carelessly done that an undertaking that could have caused a great deal of damage proved useless, and a renewal of artillery fire between the front batteries was the only result."

After the battle of August 26, General Janssens first fled to Buitenzorg, but he was speedily driven from there by a force commanded by Colonel Gibbs. Subsequently he proceeded to the eastward to Semarang, where he found a contingent of 1,400 native auxiliaries under Prince Prang Wedono. With this force, and such other native supporters as he could get together, he took up a strong position on the plateau of Jatang Ali. But the materials of which the defensive force consisted was of the worst, and when Sir Samuel Auchmuty appeared on the scene with a strong detachment he found his task an easy one. Janssens managed once more to escape, but Jumel was captured, together with fifty other officers, two hundred European, and five hundred native troops. Janssens still for a time declined to surrender, but at length he bowed to the inevitable and yielded himself into Sir Samuel Auchmuty's hands. He was spared the humiliation of laying down his arms. "Not that it was dispensed with, but because we had not a single gun left," was his eloquent apology. "The resistance," he added, "might have been continued a little longer if the Army had had a very experienced General, or if General Jumel had not been there. But to save the Colony I declare before Almighty God that it was impossible for whomsoever it might have been. The horror of the situation was such, that if it had been possible to beat a regular Army like the enemy's, I had no longer the means to continue the administration of the Colony. All its resources were either exhausted or destroyed."

Lord Minto issued his proclamation announcing the introduction of British rule on September 11, but the final capitulation of the island was not signed till September 18 by General Janssens at Semarang. Lord Minto remained in Java six weeks arranging the details of the measures for the setting up of the new administration, forming plans for the suppression of piracy, and consulting with

Raffles on points of anticipated difficulty. It seems that even after the island was in British hands there was a question as to whether it should be retained. Lord Minto, however, decided the point as might have been anticipated, and Raffles was duly installed as Lieutenant-Governor. He embarked upon his work with the elation that comes to a strong mind after the successful performance of a hard task, and with a heavy burden of responsibility to bear. In a letter

to his friend Marsden, he spoke of Java as "the other India," and dwelt with enthusiasm upon the field which the "new conquest" offered for research. Raffles was not alone in the pleasurable anticipation of a good time amongst the splendid remains of ancient Javan civilisation, for in Lord Minto's suite was John Leyden, the poet of Teviotdale and the friend of Sir Walter Scott, who, since his arrival in the East in 1802, had made a respectable reputation as an Orientalist. Ley-

den landed in Batavia full of plans of future work, but, unhappily, early in his sojourn he contracted a fever in Batavia, and, after a short illness, died. A familiar quatrain lives in literary history to remind us of the connection of this northern genius with Lord Minto's expedition and Batavia:—

"Quenched is his lamp of varied lore,
That loved the light of song to pour:
A distant and a deadly shore
Has Leyden's cold remains."

CHAPTER XVII.

Raffles' Administration of Java—Introduction of Reforms—Abolition of Forced Labour—Relations with Native Princes—Trouble at Bantam—The Land Settlement—Coffee Cultivation—The Currency—Death of Lady Raffles—Gillespie's Charges against Raffles—Recall of Raffles.

THE advent of the British in Java brought into the sphere of Dutch administration a new and quickening influence. As we have seen, some years before this the dry bones of the arid commercialism which had hitherto been the dominant policy had been stirred from within to some purpose. The bankruptcy of the Company had proclaimed to the world in accents which were incapable of misinterpretation that the old order must be changed, and writers like Van Hogendorp had fearlessly pointed the way which must be traversed if the Dutch reputation for political government was not to sink into a common grave with the once famous Amsterdam Corporation. Reform was in the air, and it only needed the electric spark of a sympathetic and progressive administration to start a practical movement into life. That touch Raffles was well qualified to apply. A man of original thought, full of energy and enthusiasm, and imbued with a not unworthy political ambition, he was precisely the type of administrator to succeed in such a position. It is probable that he went to the island with a well-defined intention to change radically the administrative system. He certainly had views, and very pronounced ones, on the inefficiency of the Dutch Company's methods. The system of forced deliveries was abhorrent to his humanitarian instincts, and he was not less opposed to the policy of dealing with the native princes which seemed to him to combine a maximum of harshness and injustice with a minimum of political advantage.

As a preliminary to the serious work of administrative reconstruction which was before him, Raffles instituted statistical inquiries in the several districts and collected the most detailed information in every department. The facts brought to his knowledge convinced him that a thorough change in system was not only advisable and practicable, but indispensable. Having reached this conclusion, with characteristic promptitude he set himself to draft a scheme of reforms. He was fortunate in having as his right hand man in this work Mr. Muntinge, an able Dutch official, who had been identified with the Javan administration for some years, and who had a special acquaintance with the problems which the Lieutenant-Governor had set himself to solve.

One of Raffles' first acts was to send British residents to the native courts. This was followed by a discontinuance of most of the expensive establishments of government,

and the reform of others, notably of the departments of revenue, commerce, and the judicature. By January 1, 1812, these changes had been introduced, and in addition a general survey of the whole island had been set on foot. Raffles, in a letter to a friend in March, 1812, thus refers to the reforms he had introduced in the judicial and police departments: "Previous to the establishment of the British government in Java there was no distinction known between the police and the judicial administration of justice. At Batavia, however, there existed a Supreme Court of

originally have been founded had so entirely ceased by the abolition of all distinction between the servants of the late Company and all other individuals, that an entire change and separation of the police from the judicial authorities became necessary, and was incited by the instructions left with me by the Governor-General. . . . The Courts of Justice and Police, as new modelled, are now in full exercise, and I hope this colony may receive all the advantages of British jurisprudence, without entailing on it the disadvantages of a judicial establishment from England, of all things the most to be dreaded for the general prosperity and happiness of the population. The British Courts fit with difficulty our permanent English establishments in India, but here their introduction would only lead to anarchy, vexation, and trouble without end."

These measures, important as they were in themselves, were put in the shade by the introduction of a sweeping series of reforms of the system of land tenure amounting almost to a revolution. Raffles, at the earliest moment, perceived that without a complete change in the basis of the administration there could be no hope of permanent peace and prosperity. After deeply studying the matter from all points of view, with the valuable aid of Muntinge and other able Dutch officials who rallied to his side, he came to definite conclusions which were subsequently embodied in regulations and adopted. In a memorandum written some years after the introduction of the reforms, Muntinge supplied an admirable pen picture of the reforms. "As a set off for the abolition of forced labour and of all former irregular incomes, a general tax was imposed on the soil, differing according to the fertility of the latter. By this measure the foundation stone of a regulated system of taxes was laid. The European Government here for the time appeared as the lord paramount of the country and people, and as the immediate assessor and collector of its own revenues. The native regents and lesser chiefs were satisfied with the ample means of subsistence left them. Their importance and influence, so far as they could be useful, were maintained by the power left them as chiefs of police and members of the native tribunals. They were checked and kept in bounds only where they might do mischief in imposing forced labour and in levying taxes in money



SIR THOMAS STAMFORD RAFFLES,
LIEUTENANT-GOVERNOR OF JAVA
(1811-16).

Judicature and a Bench or Court of Aldermen called the College of Schepenen; and at Soerabaya and Semarang interior Courts of Justice had been established, and in each district a court called the Landraad, consisting of the Landdrost, Regent, and High Priest, exercised both the police and judicial jurisdiction. The only distinction which existed was that all the Company's servants should be amenable to the regular Courts of Justice or to the Supreme Court at Batavia, while all other persons of every description were under the jurisdiction of the Schepenen. A difference of persons was altogether so strongly against our principles of public justice, and public and individual right, and the principle on which such distinction might

* "Memoir of Sir T. S. Raffles," p. 162.

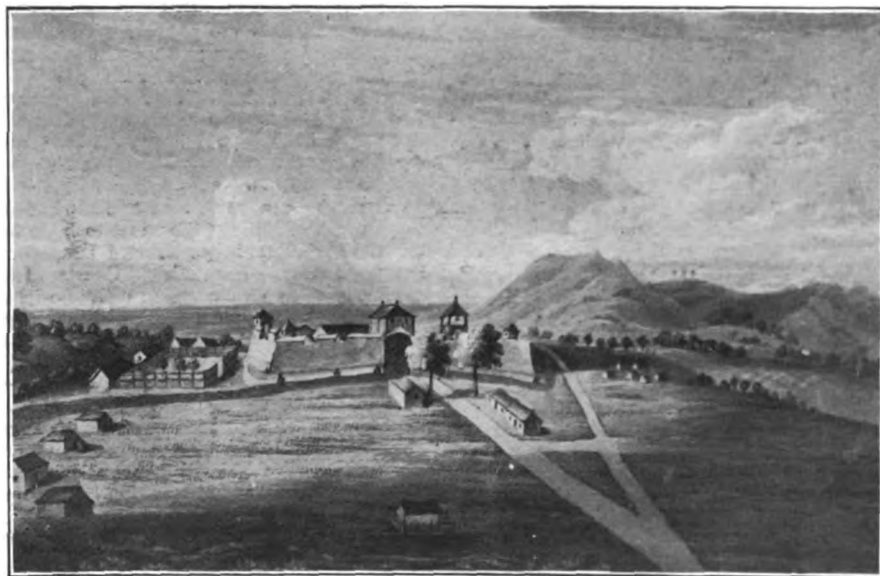
or in goods. The source of all the oppression and agitation of former times was thereby abolished. They had, meanwhile, the means by forced labour, or in whatever manner they chose, of drawing from the settlers on their private lands as many men as their housekeeping, retinue, and state required.

. . . This regulation was received not only with submission, but also with joy and acclamation, among a large number of the Javanese population—village chiefs, magistrates, and district chiefs included. The people were satisfied and content. The principles of the Asiatic Government and of the social fellowship of the Javanese were developed and elucidated. The line of demarcation between the officials and the delegates of the chief, and the elected and the advocates of the communities, was indicated by the dismemberment of the village and district administration; that of justice was regulated by intelligible and simple rules in the spirit of the old laws and customs of the country, tempered by the more humane principles of a European legislation." In the adoption of these measures, Muntinge asserts "the first, the most difficult, and certainly

the coast dues, relinquishment of the ancestral graves (which meant a large portion of the north-east coast of Java), and the return of deported relatives." Raffles handled the difficult situation with great diplomatic finesse. The payment of coast dues he declined to sanction, though he was prepared to consider the question of an indemnity; the cession of the graves of the ancestors of the ruling dynasties, involving as it would have done serious territorial sacrifices, was deferred for consideration; but the demand for the return of the deported princes was readily complied with. The concession made under the last head was a remarkably wise one, for in the persons of the returned exiles it put into Raffles' hands men who proved of the utmost value as go-betweens in the transactions which he was carrying through with the native powers. His first dealings were with the state of Djocjakarta, whose Sultan (Mangkoe Boewana) had been deposed by Daendels, as already related. This potentate was restored to power, but Raffles was careful to make the reinstatement conditional on the observance of important conditions, the acceptance of which paved the way for

for introducing new principles into the relations of the native sovereigns to the paramount European power. The system he adopted was a direct intervention in the administration of the princes. By treaties concluded in 1812, he caused the judicial powers of the princes to be limited to persons born in their own dominions, and placed all other individuals under British jurisdiction. The establishment of police forces was provided for, and the princes were bound to build bridges and forts and keep them in repair under European supervision. Highly important fiscal provisions were set forth and accepted. Thus, the princes engaged themselves not to obstruct inland trade, either directly or indirectly, and in consideration of an indemnity to transfer to British control the management and the revenue of the toll gates, together with the proceeds of the teak forests and birds' nest caves. Further, to emphasise the position of subordination of the princes, there was a stipulation that their entire military force should be disbanded, and that British garrisons should occupy the fortifications at Djocjakarta and Soerakarta. Finally, it was settled that while, as before, the appointment of Prime Ministers should be subject to the assent of the paramount power, those functionaries should on all matters consult the British Residents. Practically what Raffles did in the Treaty was to reduce the Javan princes to the position of the chiefs of a feudatory native state in British India, and he strengthened the resemblance later by reorganising the native contingent which had acted under the orders of the Batavian authorities and placing it under the leadership of British officers. Supplementing these measures was a scheme of territorial adjustment which proved of the highest value subsequently in the working out of his plan of administrative reforms. Prang Wedono, the prince who commanded the native contingent, was given the control of certain districts formerly controlled by the Soosooheonan. Nata Koesoema, another prince whose aid had been of the utmost value to the British in Djocjakarta, was similarly rewarded by the transfer to his charge of the district of Grobogan. The new Sultan of Djocjakarta, was raised to the throne, with the title of Adipati Pakoe Alam, under conditions which led to a further important change in the territorial system. The possession of the land of the State was secured to him, but the contract explicitly stipulated that the territory so ceded should be ruled and administered according to the institutions and directions of the British Government. Further, it was decreed that all amendments in the matter of taxes must be submitted to the approval of the authorities at Batavia.

These arrangements took no account of the Bantam State, once so important an element in the economic life of Java, and still a factor to be reckoned with in any general settlement. The chief of this state had furthered the British designs on the island, and was, therefore, entitled to some claim to consideration. But when disturbances occurred in his territory, and British intervention was necessary, Raffles did not hesitate to extend his principles there. He acted energetically, and only stopped short at the deposition of the Sultan. The measures led up to the practical application on a large scale of Raffles' scheme of land reform. Before this, the new methods had been introduced in Oeloedjamie, where the death of a well-known "China Captain," who had farmed a large tract of land acquired during the Daendels' administration, gave him an opening for



FORT SALATIGA, JAVA.

(From Thorn's "Conquest of Java.")

the most hazardous steps" were taken "towards the introduction of a system of political government and regulated taxation."

Before Raffles could put his measures into practical operation, he had to arrange a settlement with the native powers on the island. This was a matter of no ordinary difficulty, as the disturbing events of the past few years, coupled with a general sense of the transitoriness of the British occupation, had revived in the minds of the Javan chiefs hopes which had long lain dormant. "As if there had been no treaties with the European Government at the commencement of 1811, both the princes of Central Java," says Mr. Van Deventer, "advanced the most exorbitant claims; and as if he had not already been compelled to abdicate, Mangkoe Boewana II. came forward again as Sultan of the kingdom of Djokjokarta. In the midst of its first cares, the new Government saw placed before it the following three demands from the Emperor and from the Sultan: a continuation of the payment of

the adoption of his general scheme of administration. The Sultan had to assent to the abolition of the old system of forced deliveries, to agree to maintain an able police force, to disband his bodyguard and to accept the services of a detachment of British troops. Mangkoe Boewana signed the contract, but he did so with no intention of keeping its provisions. Taking advantage of the departure of a considerable proportion of the British troops on the island to assist in an expedition which had been rendered necessary to Palembang, he entrenched himself in his *kraton* and prepared to defy British authority. A force of 1,200 men was got together with considerable difficulty and despatched against the faithless Sultan. It carried through its mission with complete success, and Raffles was once more master of the situation. He utilised the opportunity to the fullest extent. Discovering that the Soosooheonan had been actively conspiring with the Sultan against the British Government, he used the lapse as a justification

acquiring territory on which to experiment. A beginning had also been made in Pekalongan, in Groban, and in Kedu. But it was in the Bantam State that the reform principles found exemplification upon a wide scale. He leased the land out to the leading men of the state on terms which seemed to be in antagonism to the main principles he had proclaimed, for they were given the absolute ownership of the land for one year, and during that time were permitted to lease it on whatever terms they wished to enforce and to whomsoever they wish. Prior to this, in the case of Batang, Raffles had leased the land to the village chiefs, and in Oeloedjamie and parts of Kedu had made individual cultivators lessees. His action in Bantam in practically re-establishing the feudal system, which he had started out with the avowed intention of destroying, may have been due to the imperative necessity of placating the native leaders of Bantam who were in a position to be very serious enemies if they were permanently alienated. But whether so or not, it was not intended to be a pattern to be copied in other parts of the island. This much is clear from the action which Raffles took in proceeding, in 1813, on a prolonged tour through Java to investigate on the spot, in consultation with local officials and the people themselves, the best methods of applying the new system. His conclusions were embodied in a minute dated September 17, 1813. In this document Raffles announced the decision of the Government to be that lands should be leased to the village chiefs and for not longer than one year at a time. A more detailed system of lease was considered only to be possible in those districts which had been leased to Chinamen. In the application of the new system the Government decided to eliminate the regents and substitute for them "Collectors," who, after the manner of British India, would act as assessors and collectors of land rents. To compensate the regents for their loss of power and all that the term implied in Java, the Government made them the recipients of a regular grant of money. Native chiefs and leaders and religious communities were conciliated by grants of land free of taxes. In this way the path was skilfully smoothed for the peaceful acceptance of the reforms.

The system was formally introduced by a proclamation issued in October, 1813. In this it was intimated that the tax to be introduced should be the equivalent of all abolished feudal services and compulsory deliveries, and Raffles took two-thirds of the entire product of the rice fields as a provisional standard for the payment of land rent. Subsequently, the Government put in a claim for one-half, two-fifths, and one-third of the produce as a tax, the proportion being fixed according to the fertility of the soil. The excessive character of the amounts demanded from the cultivators were a tribute to the financial exigencies of the Government rather than an indication of Raffles' matured opinion of what was just. Unquestionably the assessment was much too high, and that it was so was plainly demonstrated by the heavy and, as time progressed, the increasing extent of the arrears. This was not the sole defect of the reforms. Although the proclamation of October 5, 1813, had decreed the extinction of feudal services, such services continued to be exacted. "Raffles had rejected all the regents' hereditary rights of landed property, but by granting them land as an indemnity for their lost rights he afforded inducements for the retention of feudal services there also. He even went so far in the matter as to reward all sorts of native chiefs and civil officers with land, and

it was a mere fiction on the part of the British Governor to look upon services that had actually to be rendered as not existing. There were no services whatever rendered to native chiefs or to the European Government that were not obligatory. All wages, even those of private domestics of Christians and Chinese, were officially rated by tariff. But the worst of all was that the British Government continued to issue enactments respecting those wages; and Raffles himself, notwithstanding his philanthropic principles, made great use of the servitude. Men had to come daily to the buildings and gardens of the estate at Buitenzorg to work and to supply materials in feudal service. This went even so far that offers to supply labour in another manner were declined by him."

Raffles' measures in reference to coffee cultivation deserve to be noticed in this survey of his administration. The Government, in order to encourage the cultivation of the bean in anticipation of the opening of the European and American markets to free competition, agreed to receive any surplus quantity at a fair and fixed price.

maintain the costly establishments necessitated by his energetic policy, had issued a large quantity of paper money, and this, with the depressed conditions of agriculture and industry, constituted a problem of the most serious description. The Government, realising that the debts of the old administration must be honoured if public confidence was to be restored, commenced by accepting responsibility for a sum of seven and a half million Rix dollars, but at the time of their taking this action, the value of this paper was only six and a half Rix dollars to the Spanish dollar. Subsequently, owing to heavy disbursements on account of the expeditionary force, there was a further depreciation to thirteen Rix dollars for one silver dollar. As there appeared to be every prospect that the decline might go still further, Raffles came to the conclusion that it was "imperiously necessary to remove this paper currency from the market, and to replace it with such a circulating medium as could be supported in its credit and rendered available for the public disbursements." The decision arrived at was to recall the whole of the



FALLS AT TJIROEK-BETONG (JAVA).

(From Terwogt's "Het Land van Jan Pieterszoon Coen.")

This was a great step in advance, as under the old régime the supply had been restricted to ten million pounds per annum. Owing to the encouragement given, eleven million new coffee shrubs were planted, and before the British administration ended, the supply had reached the large amount of fifty million pounds. In association with this extension of coffee cultivation may be mentioned the policy followed in regard to salt. Under the old system of forming the monopoly, the prices of the commodity had been irregular and exorbitant, and much suffering was created amongst the poor in consequence. The Government now took into its hands the management of the monopoly, and also abolished the blandars or toll gates which accentuated the evils of the farming system by making an addition to the already excessive charge for this prime necessity of life.

The finances of the Colony were a source of grave anxiety to the new administration from the moment that it entered into an active stage of its existence. Daendels, to

paper currency, its extinction being provided for, partly by the sale of lands and partly by the issue of Treasury bonds bearing interest at the rate of six per cent. In due course the plan was put into execution, in circumstances which gave rise later to a considerable amount of criticism. Though Raffles' projects in relation to land sales were not always wise, the main object for which he strove the rehabilitation of public credit was accomplished. The paper currency was restored to its face value, and trade transactions were made possible without the terrible drawback which the depreciated and constantly depreciating currency had interposed.

Misfortune clouded the last two years of Raffles' life in Java. His wife, to whom he was devotedly attached, died suddenly, and the blow, heavy in itself, was made doubly heavy to bear by the circumstance that amidst his grief, he was called upon to answer a series of charges brought against him by Colonel Gillespie, who, after participating in the military operations incidental to the conquest of

Java, had taken a leading part in the administration as member of the Lieutenant-Governor's council. This is not a biography of Raffles, and there is no necessity here to go in detail into the indictment which was brought against him by his colleague in the

improper conduct in purchasing Government lands at a lower price than they had been tendered for outside. There was a half truth in the accusation, inasmuch as Raffles had purchased land as stated, but he did so to protect the Government interests, and before

a full and complete reply to all Gillespie's charges, and the Government of India showed that they attached no credence to them by nominating him to the reserved post of Lieutenant-Governor of Bencoolen. But while they absolved him from the aspersions cast upon his honour, they severely censured certain features of his policy, and notably condemned his boldness in taking action in reference to the land system, without first obtaining the assent of the Calcutta authorities to the policy. Having regard to what had occurred, they considered that his term of office in Java had best be brought to a close, and they announced that Mr. Fendall, an experienced official, would be sent out to relieve him of his duties.

The new Lieutenant-Governor arrived in Batavia on March 11, 1816, a few days after the advent of Captain Nahuys, the *avant courier* of the Dutch force of 3,500 Netherlands' troops that were to occupy the island on its rendition in accordance with the terms of the Treaty of Vienna. Raffles left the island to some extent under a cloud, and it was not until some years later that the Court of the East India Company passed a final decision on his case. The views then expressed made it perfectly clear that the Court considered that Raffles' rebuttal of the accusations contained in Gillespie's indictment was complete, and that not the slightest stain rested on his honour. But it remained for a Dutch writer, Mr. Van Deventer, whose views we have freely quoted, to pay to his great work in Java that full tribute which it deserved. Mr. Van Deventer, who is a very sharp critic indeed of Raffles' later policy which culminated in the occupation of Singapore, speaks in the most generous terms of his Javan administration. "Coming," the author says, "from a school that above all cherished peace and order as indispensable conditions for the people's welfare, he (Raffles) combined all those attributes that his great predecessor in the governorship at Batavia lacked: namely, catholic humanity coupled with a strong desire for peace; a predilection for freedom, with a fixed conviction of the necessity of order and authority; and the development of a statesman of their wants and of the claims of social and economical reform. No wild striking at existing relations, of whatever nature, such as disgraced the rule of a Daendels, was to be feared from such a man. With a grand and fixed aim before him, and gifted with a wide perception, he embraced the whole situation, sounded the depths, and penetrated the core, where his predecessor had stopped short at the surface." This disinterested eulogy may be supplemented by the views expressed by another non-British writer. Mr. Clive Day, in his well-known work, in summing up the history of Raffles' administration, says: "It is praise enough for him (Raffles) that he attempted the task that generations had to do and that he worked so manfully to accomplish it. Neither his own failure, nor that of his Dutch successors to realise the ideals that he proposed condemns his plans. Those plans were sound and practicable, and if more men like Raffles had been allowed to carry on the work unhampered by selfish demands from Europe, Java would now be the gainer by many years of progress." Here we may leave Raffles' Javan policy. With its many shortcomings, it still stands out a beacon of light and statesmanship in the history of Netherlands India.



THE OFFICIAL ANNOUNCEMENT OF THE TERMINATION OF THE BRITISH OCCUPATION OF JAVA.

Government. It will suffice to say, that Gillespie charged the Lieutenant-Governor with a portentous list of offences relating chiefly to the disposal of land. Not only was the policy of this measure arraigned, but Gillespie directly accused Raffles of

Gillespie's charges reached him, had addressed to the Governor-General a full explanation of the reasons which influenced him in the course he had taken in purchasing the land. The allegation that a higher tender had been rejected was shown to be false. Raffles made

CHAPTER XVIII.

Territorial Re-arrangements consequent upon the Treaty of Vienna—Appointment of a High Commission by the Netherlands Government—Difficulties with the British about the Transfer of Bandjermasin (Borneo) and Banca and Billiton (Sumatra)—Incident at Palembang—Occupation of Singapore by the British—Conclusion of the Treaty of 1824—Its Effects on Dutch and British Relations—Van der Capellen's Administration.

THE Congress of Vienna, which restored Java and the islands of the Eastern Archipelago previously under Dutch dominion to Holland, made other dispositions of the territories of the defunct Dutch East India Company which, in the interests of the completeness of the narrative, must be mentioned. Ceylon, first occupied by the British in 1796, had under the Treaty of Amiens been formally ceded to the British in 1802, and did not enter into the settlement. But Malacca, which came under British control in 1795, and would have been handed back to Holland in 1802 but for the rupture of the peace of Amiens, was retroceded by virtue of the first clause of the Treaty which restored to Holland all the possessions she held in the East on January 1, 1803. The disposal of the Cape played an important part in the arrangement sanctioned by the Treaty. The Colony was occupied by a British force in 1795, but in accordance with the stipulations of the Treaty of Amiens it was restored to the Dutch on February 20, 1803. On the renewed outbreak of the war, it was feared that the French Republicans might seize the position owing to its enormous strategic importance. Consequently, an expedition under Sir David Baird was sent out to re-occupy the settlement, and this was done on January 18, 1806. When the final settlement had to be made, the British Government resolved to make the retention of the Cape an essential feature of their demands. The Dutch Government were naturally anxious to have back all the old possessions of Holland, and, as the diplomatic correspondence shows, King William of Holland strove earnestly to attain this end, and only yielded when he found that further persistence might have imperilled the general settlement. As set forth in the Treaty, the arrangement came to was that Great Britain should pay a sum of six millions, five millions of which should be used to defray the cost of establishing the new Netherlands territory in Europe, which was afterwards to constitute the independent kingdom of Belgium; and that in consideration and in satisfaction of these engagements the King of Holland should yield the Cape in full sovereignty to Great Britain, together with Demerara, Essequibo, and Berbice in the West Indies. It has been argued by Dutch writers, and notably by Professor J. E. Heeres in a pamphlet* published in 1898, that as Holland was not really a free agent at the time, and had to take what Great Britain was disposed to give her, the transaction cannot be regarded in the light of a sale of territorial interests for hard cash as has sometimes been represented; and no doubt there is force in that contention. In the general scramble which followed the downfall of the Napoleonic power, the great Powers took very good care to reserve to themselves the privilege of distribution, and the smaller states had to be thankful for what was

conceded them. In the ordinary sense of the term their action was not voluntary. The most that can be said for it is that it was acquiescent. In the case of Holland, she had to face what was no doubt a pre-conceived determination on the part of Great Britain to hold to the Cape and the three West Indian Colonies as her share of the spoil. That feeling it was not within her power to overcome, and she made a virtue of necessity by yielding her rights. "England," to adopt Professor Heeres' words, "simply prescribed what would happen, and William I. had to accept it."

To give effect to the provisions of the Treaty as far as they affected its Eastern possessions, Holland in 1814 appointed a High Commission, consisting of G. A. G. Ph. Baron van der Capellen, Dr. C. Th. Elout, and Mr. A. A. Buyskes. These gentlemen had not been long in Batavia



BARON VAN DER CAPELLEN, HIGH COMMISSIONER AND GOVERNOR-GENERAL OF NETHERLANDS INDIA. 1816-26.

before it was discovered that all was not to be plain sailing in the matter of the transfer of territory. In the case of Java, many important financial and political points arose to occupy the attention of the commissioners. On these matters both the British and Dutch entertained strong views, and it was not easy to reconcile them, more especially as no principles had been laid down in the Treaty for the transfer. There was considerable trouble also relative to some of the outlying possessions. One question which was debated with a considerable amount of heat was the restitution of the settlement of Bandjermasin, on Borneo. This place had been abandoned to the British by Daendels,

and a title to occupation after January 1, 1803, had been obtained from the local Sultan. The British Lieutenant-Governor (Fendall) accordingly argued that the settlement was excluded from the stipulations of the Treaty. At the same time, he intimated that the British force might be withdrawn, and that no obstacle would be placed in the way of an arrangement between the Dutch and the Sultan for the resumption of the Dutch occupation. The Dutch commissioners took the earliest opportunity of intimating that they would regard the non-delivery of Bandjermasin as an infraction of the Treaty. They expressed "extreme pain" at the reference to Daendels and to the rights which his action was supposed to have conferred upon the British. "We flattered ourselves," wrote the commissioners, "on receiving a reply more conformable to the reiterated protestations of friendship and good will towards the Netherlands Government than it has pleased your Excellency to make to us, and surely it had been a favourable occasion of giving us the most unequivocal proof thereof by assisting us in re-entering upon the rights the exercise of which has only been interrupted by circumstances of the time, and we are fully persuaded that this would only have been to act conformably to the views of the British Government in Europe. But if an opposite conduct has sensibly affected us, our astonishment is increased on reading the letter written by Mr. Secretary Assay to Secretary D'Ozy, under date the 9th inst. This letter contains a simple communication that the British Commissioners, having resolved to abandon the establishment of Banjarmasin, the criminals transported during the last five years would be sent back to Java, disembarked at such port, and delivered to such persons as we shall appoint for this purpose. The number of 917 persons transported in virtue of sentences of Courts of Justice is truly alarming, and that they should be sent back unexpectedly with their families, to the number of more than 1,400 persons, into the society from which they are banished, is a phenomenon the more extraordinary considering the intimate relations which exist between our Governments. It is also our duty candidly and in the most serious manner to declare that we look upon such an act as contrary to the right of our august sovereign, and that we positively refuse to admit them upon the territory of this island. . . . We declare, moreover, that we have positively resolved to take possession of our establishment of Banjarmasin. We presume to expect from your Excellency, and at least we earnestly entreat it, that you will be pleased to act in concert with us in this instance, and that you will give the necessary orders that everything may remain untouched in order not to prejudice our right in any manner. If, however, our hopes should vanish and the former provisional Government of Java refuses to us the right which the British Government in Europe has acknowledged we must on our side protest against so violent a proceeding."

This indignant communication elicited from

* "Heet Nederland de Kaap verkocht?" (Has Holland sold the Cape?) Published by J. H. de Bussy, at Amsterdam, 1898.

the British authorities a minute setting forth afresh their contention that their Treaty concluded with the Sultan in 1812 gave the British Government special rights in Bandjerma-in. These rights, it was again intimated, were

faults on both sides. The Dutch commissioners went out with possibly an exaggerated conception of the rights conferred on the Dutch by the Treaty, and in the arrangement of affairs with the British,

by the Dutch in the seventeenth century has been described in a previous chapter. The island, with the adjacent island of Billiton, had been transferred to the British by the Sultan of Palembang, at the close of the expedition sent to inflict chastisement for the murder of the Dutch Resident and the garrison of the Dutch post. One of the stipulations of the transfer was that the Sultan should be allowed to retain all the port dues and revenues at Palembang, which, under the treaties with the Dutch Government, had been included in the privileges of the factory. The British contention was that the Dutch, in taking over the territory, must confirm this compact made with the British. They argued that having concluded the arrangement, they were bound in honour to see that it was accepted by their successors. If the Dutch had never had any dominion over Palembang, there would have been strong justification for the claim, but as their connection with the territory of the Sultan extended back many years, and the question of port dues had always been regarded by them as an essential one, it is scarcely surprising that they were not disposed to accept this view. They demanded as a right the immediate retrocession of the island; nor would they entertain a suggestion that was made by the British, that the question should be referred home for settlement, and that in the meantime, no change should be made in the situation. Finding the Dutch thus obdurate, Fendall felt that he had no alternative but to yield, and eventually the island was transferred. The British, however, made the concession in a grudging spirit, raising new difficulties about the transfer of the adjacent island of Billiton. This island, it was asserted, was not included in the exchange, since the clause in the Treaty only made specific mention of Banca. Van der Capellen strenuously protested against this theory, maintaining that the retrocession contemplated in the diplomatic instrument referred not only to Banca but to its dependencies, one of which was



PONTIANAK RIVER (BORNEO).

not to be used against the Dutch re-occupation. At the same time, in view of the compact made with the Sultan, the British could not take any step to facilitate the re-establishment of Dutch authority; they would simply walk out leaving the Dutch to walk in and make their own arrangements. The Dutch commissioners were mollified at this explanation, from which they were able to gather that the real object of the somewhat curious British attitude was, in Chinese phrase, "to save their face." But even when this degree of enlightenment had been reached there still remained, in the question of the disposal of the convicts, an acute source of difference. A number of that class appear to have been landed on the Javan coast without the assent of the Dutch authorities, and as a disturbance occurred in the locality on the private estate of Mr. Muntinge, at about the same time, the belief was entertained that the unwelcome visitors were the cause of the trouble. It was afterwards made clear that the outbreak was entirely unconnected with the convicts, but the Dutch officials, prior to the disclosure of the facts, went on board the British ship which brought the men to Java, and forcibly removed from it two convicts who had not been landed, with the object, as was afterwards explained, of obtaining evidence. This high-handed measure produced, as it was bound to do, a strong remonstrance from the British. Fendall, in an indignant letter, solemnly protested against the seizure, and pointed out the extreme seriousness of such an outrage to the flag. An explanation in the nature of an apology was afterwards forthcoming from Baron van der Capellen, and this particular incident was regarded as closed. But a state of regrettable tension had by this time been created which quite destroyed the possibility of friendly co-operation.

In this, as in most cases, there were

showed a disposition to evade responsibilities which clearly they should have readily assumed. On their part, the British, in the transfer of territory held by them, assumed an attitude quite out of harmony with the true spirit of conciliation and friendliness which should have actuated them. The case of the Bandjermasin establishment did not stand alone. Under the provisions of the



PALEMBANG AT THE BEGINNING OF THE NINETEENTH CENTURY.

(From Thorn's "Conquest of Java.")

the Treaty of Vienna, the island of Banca, which had been occupied by the British since 1812, was exchanged for the town of Cochin in India, the conquest of which

Billiton. Fendall traversed this view, asserting that the word "dependencies" did not figure in the treaty, and that consequently it could not be regarded as forming a part of the

cession. He explained in his final report to his superiors that he took up this attitude not because of the value of Billiton—in point of fact its possession was “a matter of no great consequence to British interests”—but with the idea that the further cession of it might be useful in any future discussions and arrangements between the two Governments. In the end, the point was solved by the withdrawal of the British guard on the island and the substitution of a Dutch one. Very soon fresh controversy arose over other points connected with the re-establishment of Dutch authority in various parts of the archipelago. Raffles, having returned from Europe and assumed control of his office at Bencoolen, with more ardour than discretion threw himself into a dispute which the Dutch had with the Sultan of Palembang concerning the question of their authority over him. There may have been an arguable right to British intervention on behalf of a prince with whom a special treaty had been concluded not long previously. But Raffles was quite in the wrong in sending as he did a deputation attended by an armed escort to support the Sultan in his resistance to the Dutch. The Dutch were far too strong to make a measure of this kind successful even if it had been desirable, and the only result of the action taken was the creation of a dangerous state of tension resulting in the arrest and deportation to Batavia of the British party. Other incidents occurred at this period which, though not quite so serious as this, had a not unimportant part in adding to the strife. In the process of discussion of the matters at issue, suspicion was engendered on both sides. The Dutch believed that the British were intent on depriving them of their cherished territorial rights—rights which had become more precious to them with the renewal of their national life after the cataclysm of the Napoleonic period; the British were strongly of the view that what the Dutch were aiming at was the establishment of a monopoly which would shut British trade absolutely out of the markets of a part at least of the Far East and cripple the country's energies in all parts of Eastern Asia. The British view is well put by the Marquess of Hastings, Governor-General of India, in the instructions given to Raffles on the occasion of his despatch on the historic mission which landed him in Singapore. “The proceedings of the Dutch authorities,” wrote the Governor-General, “leave no room to doubt that it is their policy, by possessing themselves of all the most commanding stations in that quarter, to extend their supremacy over the whole archipelago. The success of this project would have the effect of completely excluding our shipping from the trade with the Eastern islands, except on the terms which the Dutch authorities might impose, and would give them the entire command of the only channels for the direct trade between China and Europe which, under circumstances easily supposable without contemplating actual hostilities, would greatly impede that valuable commerce. Under these impressions it appears to be an object of essential importance to our political and commercial interests to secure the free passage of the Straits of Malacca, the only channel left to us since the restitution of Java and the other Dutch possessions.”* With such feelings as these in the ascendant, it is not remarkable that matters advanced to a sharp crisis. There was much preliminary diplomatic skirmishing—despatch of expeditions, conclusion of treaties, and minatory despatch

writing. Then came the culminating point, the occupation by Sir T. S. Raffles on behalf of the British, on January 29, 1819, of the island of Singapore. In another work of this series* a full account of the measure has been given, together with a relation of the controversy which arose out of the occupation, and it is not necessary here to deal with the subject in detail. It must be stated, however, that the Dutch Government took the strongest exception to the annexation, holding that it was a direct infraction of the rights conferred upon them under a treaty made with the Sultan of Johore some time previously. The British reply to this was that they derived their title from the legitimate holder of the sovereignty of the Johore State, whereas the Dutch treaty was made with a usurper. On this point issue was joined, and for many months a wordy warfare raged until the inevitable stage was reached when compromise came in sight.

In both countries it was felt that if there was to be a lasting friendship, a complete laying of the ghosts of the old controversies which had stalked through the archipelago for generations, to the great disturbance of the peace of mind of Dutch as well as

the questions which had been such a fruitful source of trouble. The opening articles deal with the commercial aspects of the arrangement. Most favoured nation rights were mutually conferred, stipulations were made relative to the payment of duties at the ports in the territories of the contracting parties; it was agreed that no treaty should be made with a native power in prejudice of the trading rights of either of the contracting parties, and that strict orders should be given to the civil and military authorities of both powers to respect the freedom of trade thus established, and in no case to impede a free communication of the natives in the Eastern Archipelago with the ports of the two Governments, or of the subjects of the two Governments with the ports belonging to native powers. The Molucca Islands, and especially Amboina, Banda, Ternate, and their immediate dependencies, were excepted from these provisions until the Netherlands Government should think fit to abandon the spice monopoly. There is a clause relative to the suppression of piracy, and a further one setting forth that orders should be given by the two Governments to their officers and agents in the East not to form any new settlement on



VIEW ON THE WEST COAST OF SUMATRA NEAR PADANG.

(From Terwogt's "Het Land van Jan Pieterszoon Coen.")

British, a new understanding must be reached. The Treaty of 1814 was all very well as a means for the adjustment of the pressing questions which were incidental to the resumption of Dutch authority, but it was quite inadequate as a guide to the settlement of the permanent relations of British and Dutch in the sphere of influence in which they were commonly interested. The two Governments, tired of the constant disputes which engaged their attention, came eventually to the conclusion that there must be a new compact, and they appointed plenipotentiaries accordingly to settle its terms. The British representatives were Canning and Sir Charles Watkin Williams Wynn, and Messrs. H. Fagel and A. R. Falck were deputed to act on behalf of the Netherlands Government. The Treaty, as finally settled in seventeen articles, brought into focus all

any of the islands in the Eastern seas without previous authority from their respective Governments in Europe. But the essential features of the Treaty are embodied in the last nine clauses. These provide for the cession to the British of all the Dutch establishments on the continent of India, and a renunciation of all the rights and privileges attaching to them; the cession to the Dutch by the British of the factory of Fort Marlborough (Bencoolen), and all the British possessions on Sumatra, and the giving of an undertaking by the British Government that no settlement should be formed on that island, nor any treaty concluded with its native princes; the cession by the Dutch to the British of Malacca, and the giving of an undertaking by them that no settlement should be formed on any part of the Malay Peninsula, and that no treaty should be made with native princes in that region. The British Government withdrew the objections that had been made to the occupation of the

* Straits Settlements Records, 1824.

* "Twentieth Century Impressions of British Malaya," Published 1908.

island of Billiton and its dependencies by the agents of the Netherlands Government, and the Dutch Government withdrew the objections that had been urged to the occupation of Singapore. The British Government, however, engaged that no British establishment should be made on the Karimon Islands or on the islands of Battam, Bintang, Lingin, or any of the other islands south of the Straits of Singapore. An important provision is contained in Article XV., which sets forth that none of the territory ceded by the Treaty should be at any time transferred to any other power, and that in the event of these possessions being abandoned the right of occupation should immediately pass to the other power. Finally, there was a stipulation that the Netherlands Government should pay £100,000 in satisfaction of all outstanding claims relative to the occupation of Java.

The settlement thus arranged was on the whole a satisfactory one to both parties. Holland got to a large extent a free hand in Sumatra, a most valuable concession, as the occupation of the island supplied an important link in her splendid chain of possessions in the East. Great Britain, on her part, obtained Malacca, and an admission of her title to Singapore, an equally important advantage, since it made her undisputed mistress in the Malay Peninsula, the possession of which rounds off in a striking way her sphere of influence in the Indian seas, and enables her to dominate the principal line of ocean communication between the West and the East. Canning and his brother plenipotentiary, in a despatch* written after the conclusion of the Treaty, expressed the assurance that under the arrangement just made "the commerce of both nations will flourish, and that the two allies will preserve inviolate in Asia, no less than in Europe, the friendship which has from old times subsisted between them. The disputes being now ended, which during two centuries have occasionally produced irritation, there will."

* Papers relative to the Execution of the Treaty of 1824 by the Netherlands Authorities in the East Indies. Presented to the House of Commons on May 28, 1840.

continued the plenipotentiaries, "henceforward be no rivalry between the English and the Dutch nations in the East except for the more effectual establishment of those principles of liberal policy which both have this day asserted in the face of the world." These sanguine anticipations, of the inauguration of an era of perfect peace between British and Dutch, as will be seen in the sequel, were not entirely realised; but there can be no reasonable doubt that the concessions mutually made in 1824 did go a very long way to produce the spirit of harmonious co-operation which in due time was to become a permanent mark of the relations between the two nations in the East.

Before the understanding with the British had been reached, the new Batavia Government had their hands more than full of local troubles arising out of their relations with the natives in various parts of the Dutch possessions. One very serious difficulty was encountered in Sumatra, where a body of Mahomedan fanatics, popularly known as the Padries, or Fathers, rose into prominence by conducting an aggressive propaganda of religious reform. The sect, which probably derived its inspiration from the famous Wahabee movement in Arabia, came first into notice in 1813, but it was not until 1820 and the succeeding years that it became a serious factor in the local situation. Then, however, the Dutch authorities had reason to know how potent a force Mahomedan fanaticism is when it has a congenial soil to work upon. The actual tenets of the Padries were harmless enough regarded from the standpoint of the European authority. The sectarians held the view that all Mahomedans should abstain from the use of opium, and from cock fighting, and that they should wear a peculiar dress and submit to ecclesiastical authority. Like their Puritan prototypes in England in the days of the Commonwealth, however, they united to their religious zeal a very downright pugnacity, and this brought them into sharp antagonism with some of the elements of the population who were not disposed to forego the cakes and ale, or

the Sumatran equivalent for them. The Dutch could not sit quietly by while these disorders were going on, so they intervened with the consequences which traditionally attach to those who interpose in a quarrel. Such was the strength of the Padrie organisation that it required all the resources at the command of the Dutch to make any headway against it. The warfare was carried on ruthlessly on both sides for some years, and it only terminated in 1825 because of exhaustion of the combatants and then, as will be seen later, the movement was not actually killed.

The end of the war practically coincided with the close of Baron van der Capellen's period of office as Governor-General. He had come out to the East at a critical time and in his handling of the many difficult questions associated with the reinstatement of Dutch authority he displayed genuine ability. That he was not always successful in his diplomatic encounters was due not to his own faults but to the formidable obstacles which he had to encounter. His success must be measured by the condition in which he left the Dutch Eastern possessions. Though there was internal trouble, and the administration was not in all respects working smoothly, he handed over to his successor a Netherlands India of greater area and more powerful and self-contained than had ever before existed. While much was shadowy and doubtful when he came upon the scene, he was able to embark for Europe with the confident assurance that as far as the most important territory was concerned no question would arise as to Holland's indefeasible title. His chief defect as an administrator was a lack of imagination. He could not understand what magnificent possibilities there were in Netherlands India with the adoption of a liberal policy. He regarded the territory as a private domain of the King, and he resolutely frowned on private enterprise as he might have done upon poachers if he had been the custodian of a royal manor. The effect of his attitude was to start Java on a wrong road, and to defer her proper development for a generation.

CHAPTER XIX.

Outbreak of the Java Rebellion led by Dipo Negoro—Guerilla Tactics of the Enemy—The War enters its Second Stage—Expeditionary Force sent from Holland—General De Kock's Campaigning Methods—Introduction of Block-houses—Capture of Dipo Negoro and End of the War—Commissioner Du Bus's Mission—His Reform Scheme—Governor-General Van den Bosch introduces the Culture System—Its Evils—Reform of the System—Fresh Outbreak of the Padrie War in Sumatra—Massacre of the Dutch Garrison at Bandjol—Krieger's Masterly Retreat—General Cochius ends the War—Establishment of the Government of the West Coast of Sumatra.

FENDALL, the British Lieutenant-Governor of Java, in his final report on Javan affairs,* dwelt with pride on the fact that the island on its transfer "was in a state of profound peace and without any appearance whatever of tumult or disorder." The happy state of affairs was not destined to be of long duration. As was, perhaps, inevitable in the circumstances attending the complete change made in the administration, friction arose at a very

* Java Records, Vol. 66.

early period between the official element and the native powers. The Dutch officials, quite new to their business, hampered by lack of information, and animated by a raw zeal for the re-establishment of Dutch power on firm foundations, perpetrated many blunders in their dealings with the native populations. From ignorance more than intention old customs were needlessly interfered with, privileges which were greatly cherished were either materially modified or withdrawn, and what was even more resented, a hectoring

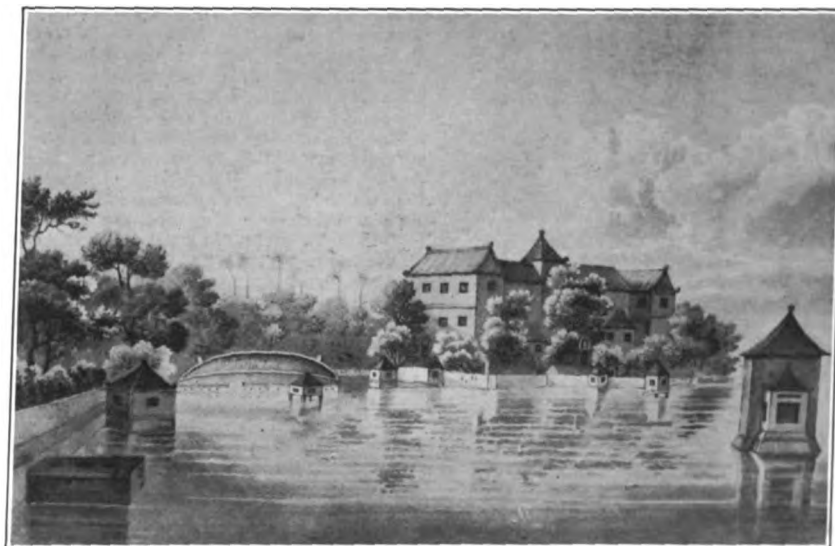
bearing was assumed towards princes and chiefs who had been accustomed to deferential treatment from the European Government in the period prior to the retrocession. The natural fruit of this tactless policy was the creation of a feeling of disaffection which spread more and more as time went on, and fresh fuel was added to the flame by some ill-advised measure on the part of the Batavian Government.

Perhaps the most potent cause of discontent which was manifested at this juncture was

the introduction by the Dutch authorities of measures designed to change in a marked way the conditions of land tenure which existed in Mid Java, and notably in the States of Soerakarta and Djocjakarta. In this region, the native princes had to a very large extent adopted the practise described earlier in the volume of leasing out their land to Chinese, who superintended the working of it and made themselves responsible for the taxes. The system was a very oppressive one to the inhabitants, and it was also demoralising to the native rulers, who found in the easily won revenue a means of gratifying luxurious indulgencies, which were in unpleasant contrast with the dignified simplicity of earlier times. It was, however, a custom which had its roots deep in Javan life, and a wise policy would have avoided violent interference with it at least until the new administration had been firmly established. The Dutch officials of the older school would doubtless have exercised their influence in this direction if they had had a voice in the management of affairs. But, unfortunately, for various reasons the class was suspect, and those who might have advised rightly were not taken into confidence by the Government. The inexperienced officials at Batavia saw in the arrangement only a means by which the life blood of the native territory was drained by a class of foreign leeches, and they proceeded to deal with it with uncompromising ardour. An edict was issued against the leasing system, and contracts already concluded under it were either ordered to be annulled or to be executed under impossible conditions. The Government action was received with sullen resentment by the native chiefs. They saw in the course adopted by the Government a serious encroachment upon their princely prerogatives, as well as an interference with their private liberties, and the fear possessed them that the measures adopted were only the preliminaries of a wide scheme of confiscation. They were in just the mood to listen to any proposals which would carry with them a reasonable prospect of throwing off a hated yoke.

charged with the self-imposed mission of bringing about his overthrow. Dipo Negoro was the illegitimate son of a former Sultan of Djocjakarta, and had hoped to

reinforcements within a reasonable period of time. In their dilemma, the Batavian authorities turned to the Soosoohoonan, who had hitherto shown himself a good friend



WATER PALACE AT DJOCJAKARTA, AS IT WAS IN 1810.



DIPO NEGORO, COMMANDER OF THE REBELS IN THE JAVA WAR.
(From Kepper's "Wapenteiten.")

At this juncture there appeared upon the troubled surface of Javan politics a native prince, named Dipo Negoro, possessed with a fanatical hatred of the foreigner, and

succeed him. Not only was he disappointed in this expectation, but at one of the Court functions at Djocjakarta, an injudicious slight was put upon him by the Dutch officials by withholding from him the honours due to a prince. Mortified at the humiliation, as he regarded it, the prince, like many of his kind before him, went into opposition. Quitting the Court, he eschewed European society, and went about amongst the natives posing as the unfortunate victim of a ruthless foreign oppression. The line of conduct had its natural result upon a people so imaginative and self-centred as the Javans are. They gave ear to Dipo Negoro's insidious propaganda, and when he summoned them, as he did in due course, in the year 1825, to take up arms and join him in an aggressive movement, they flocked in great numbers to his standard. At an early stage, Dipo Negoro managed by artifice to drag a young prince of the reigning house of Djocjakarta—the Pangeran Mangkoe Boemi—into association with him, and other influential adherents followed into his camp. Soon he had practically all the princes and people of Djocjakarta on his side, and the movement covered with its ramifications the whole western part of Mid Java. Religious fanaticism tended to fan the flames of a rising already sufficiently formidable from its deep racial animosities. Dipo Negoro gave out that in taking up arms he was inspired by the direct command of Mahomed, so that in joining him the Javanese were taking part not only in a fight for their homes, but in a contest for the faith. Thus it happened that the Dutch, before they were hardly aware of it, found themselves in the presence of a hostile movement more dangerous to their power than any they had encountered in Java since the Succession War of the previous century. They were very badly equipped to meet so serious a crisis. The military force at the immediate disposal of the Government was small, and there was little prospect of obtaining adequate

of the Dutch, and who, it was hoped, would now throw the great weight of his influence into the scale in their favour. To secure his help, the Government sent on a mission to Soerakarta Lieutenant-General Merkus de Kock who had been previously appointed by them to take charge of the operations against the rebels. De Kock had a satisfactory interview with the Soosoohoonan, and was able to make such arrangements with him that the movement was kept from spreading into the important eastern area of the protected states. The advantage, although only a negative one, was of enormous value in the then condition of affairs, for so weak was the Dutch military arm that without the Soosoohoonan's co-operation, it would have been impossible to have prevented the spread of the disaffection to practically the whole of Java. Still, the years 1825 and 1826 constituted a period of intense anxiety for the Dutch, since Dipo Negoro and one of his principal officers, Sentot, a son of a former principal regent of Madioen, gained several important successes in contests with the brave but comparatively weak detachments which the Dutch sent into the field. In their fighting the rebels almost invariably adopted guerilla tactics, for which the country, owing to its rugged and mountainous character was peculiarly suited. They manifested great cunning and resourcefulness, and on one occasion managed to ambush and practically annihilate a force of about seventy native troops, who had acted as an escort of several notable native princes, and had previously fought against the rebels. According to Weitzel's "History of the Java War," Dipo Negoro's men were, at the beginning, only sparingly provided with rifles, and had little or no ordnance, but their clever handling of slings, by which stones were propelled with great accuracy upon their advancing opponents, and their dexterity in the use of the lance and the *kris* when it came to a question of close fighting, made them formidable foes. "Now a column

marching through one of those difficult tracts of Central Java, in which the path is labyrinthine in its windings, and leads through thickets and forests, and over streams, would suddenly be greeted by a shower of stones



H. M. DE KOCK, LIEUTENANT-GOVERNOR-GENERAL, NETHERLANDS INDIA, 1826-30, COMMANDER-IN-CHIEF IN THE JAVA WAR.

and lead, which was almost perpendicularly shot down from the tops of coconut trees hard by. Anon, in the night, hosts of enemies, crawling over the ground like snakes, would push their way until they reached a point immediately before or between the line of sentries, when they would raise a frightful yell, to the accompaniment of heavy volleys, which they poured in upon the sleeping camp. In this way they managed to create a condition of frightful confusion, and to give the death blow to a handful of troops who, in other circumstances, would have been able to hold hundreds of them in check."

Although in the long run Dipo Negoro found the value of regular formation and discipline for his warriors, at the outset there was not the semblance of order amongst his following. In motley hordes, they advanced to the attack carrying before them ready for use their long lances, some of which were as much as eight or ten yards in length. If defeated they would melt away like snow before a summer sun, probably to re-appear a little later in the guise of innocent and even willing agriculturists who wished to eke out their slender resources by rendering some humble services to the troops. Once the column had again gone by, they would resume their old character of belligerents, and hover upon the flank of the force ready to seize stragglers and to harass the invaders in every conceivable way. In this way they were able not only to do an immense amount of mischief but sometimes even to gain a victory, for the spirit of the best troops in the world will ultimately be broken by ceaseless attacks by an active and largely invisible enemy. In this early part of the war, the most successful of the Dutch commanders was Major-General Van Geen, who, coming with reinforcements from Celebes in September, 1825, performed an important service by releasing the garrison of Djocjakarta, who

for some time had been closely invested by the enemy. Other officers who distinguished themselves were Cochius, Cleerens, Le Bron de Vexela, Sollewijn, and later, Michiels.

The war entered into its second stage in 1826, when new tactics were adopted by the Dutch in dealing with their wily and resourceful foe. The idea was that if by diplomatic means some of the minor chiefs could be detached from Dipo Negoro's side he might himself, by the exercise of vigour, be induced to surrender. As it proved, it was a vain notion, for the rebel leader was too strongly entrenched in the affections of the people to enable the overtures made by the Dutch to prove successful. For two weary years more the rebellion continued, and then, as there did not appear to be the slightest prospect of the forces on the spot being able to grapple effectually with the emergency, a force of three thousand troops was sent out from Holland to close the war. The men composing the expedition, many of them young, arriving for the first time in the tropics and exposed to the rigours of life in the field, suffered terribly in health. Hundreds died from disease, and others were so enfeebled as to be useless for active service. At the end of the two years' period of service for which the men had contracted, of the three thousand who landed in Java only one thousand remained fit for duty. The bulk of these were absorbed into the Indian Army, so that actually a very small proportion of the force ever returned to Holland.

The months of July and August, 1827, were remarkable for a series of severe fights, which almost all ended in favour of the Dutch troops. Such excellent progress was made that the Regency of Kedu, where the rebellion of 1826 had found a fertile soil, was quite cleared, and within a few months the rebellion was limited to Djocjakarta and Bagalem. General de Kock at about this period introduced a novel method of fighting, which in the sequel proved so successful that it found imitators in various parts of the globe where like conditions had to be encountered. Hitherto when a column was on the march no attempt had been made to occupy the country in the rear. De Kock now resolved to push his troops methodically forward, closing in their rear with a series of small temporary forts (bentings) built by the compulsory labour of the natives from materials found on the spot. Weitzel gives an interesting description of these bentings, the forerunners of the South African block-houses. The structure was a square redoubt, with circular batteries in two opposite corners. On each of the batteries a cannon was mounted, *en barbette*, so that with two guns all four sides could be commanded. Often no other artillery was used but the light field guns of the mobile columns which were camped in their neighbourhood, but sometimes heavy position cannon were employed, and this more specially if within a short distance of the benting there was a *desah* (village), or an area which it was desirable should be commanded. In the process of building a benting the first operation was the fencing of the area marked out with palisades, in this way constituting a "tambour," which already gave some protection. Above ground these palisades had a length of 7 feet. At regular intervals port-holes were made. The circular batteries usually had a height of 6 feet, and the palisades round these batteries were not higher than necessary, so as not to hinder the free use of the guns. Each benting had its little garrison which overlooked the adjacent country and kept watch on the movements

of the rebels. To a large extent the men who made up the occupying detachments were invalids or temporarily disabled soldiers whose presence in the field would have been a source of weakness.

The system proved in De Kock's strong hands a most effective weapon. But, as in the case of many innovators, he did not carry out his idea without encountering formidable opposition from a quarter in which he might have looked for support. His immediate superior, Commissioner-General Du Bus de Gisignies, who in 1826 had succeeded Van der Capellen as Governor-General, was in entire disagreement with the policy and did his utmost to secure its reversal. His notion was that the situation demanded a vigorous initiative, and he favoured a plan of campaign by which the rebels would be forced into a corner between the rivers Progo and Bogowonto, and there dealt a crushing blow. Du Bus had come out to India armed with very special powers, and it required a good deal of courage to stand against him. But De Kock was too thorough a soldier to allow the conduct of the war to pass into civilian hands. He knew perfectly well from his great experience in the field—that best of all educators in the ways of war—that the enemy would never be beaten if the Commissioner-General's views were followed, and he decided to continue with his own system in the face of his official superior's hostility. Events completely justified him in this course of action. Up to this period there had been very little prospect of bringing Dipo Negoro to book. It is true he had twice opened negotiations, but the excessive demands he made showed that he was a very long way from being beaten. De Kock's force for the work he had in hand after he had assumed responsibility for the new style of campaign consisted of nearly 23,000 men, of whom 5,000 were Europeans and as many others native regulars. It was a powerful body, well designed for the execution of the purpose in hand, and De Kock used it with consummate skill. Gradually the lines were drawn in closer and closer upon the enemy, and within the



SENTOT, SECOND IN COMMAND OF THE REBELS IN THE JAVA WAR.
(From Kepper's "Wapenfeiten.")

rapidly diminishing area in which they operated they were given no peace. Before very long their resources became exhausted, and for their support they were compelled to plunder

the population, who, naturally resenting their attentions, became by an easy process friendly to the Dutch and ready to aid them in suppressing the rebellion. Before very long the effects of the policy so astutely pursued by De Kock became visible in defections from the rebel cause. On August 6, 1829, the wives and children of Prince Mangkoe Boemi surrendered, and in the following month the Prince himself came in with several members of his family. A still heavier blow was dealt at Diponegoro on October 17 in the same year, when Sentot with the whole of his men went over to the Dutch side on the understanding that he should retain all his titular

arranged, and his other acts of bad faith—that he did not after all intend to come in. At length the Gordian knot was cut by his arrest on March 28, 1830. The rebel leader was taken prisoner to Batavia, and was afterwards sent to Celebes to end his days in honourable captivity.* In this way was brought to an end a war which had lasted five years, had involved the loss of 8,000 European and 7,000 native soldiers of the Dutch East Indian forces, and had cost twenty-five million guilders.

During the later years of the war, an important discussion had been in progress relative to the administration of the Dutch

of 1818; (2) the existing irregular relations of the Government of Netherlands India and the Home Government; (3) the unsatisfactory state of the finances in India, and the adequacy of the measures taken on the spot to remedy the position; (4) the discrepancy between the statements that had been repeatedly sent home describing the financial situation as favourable and the fact that urgent demands were now being made upon the mother country for help; (5) the causes of the wars in which the Government constantly involved itself with native princes, and the possibility that these wars were unnecessarily undertaken. Broadly



GOVERNORS-GENERAL OF NETHERLANDS INDIA.

1. CHARLES FERDINAND PABST, 1850-61.
2. LIEUT. GEN. J. B. VAN HEUTZ, 1901-02.
3. ADRIJNS JA. OR. DUYNMAER VAN TWIST, 1851-59.
4. PIERUS ALBERTUS VAN DER PARRE, 1791-75.
5. JEAN CHRETIEN BAUD, 1833-39.

6. JOHAN WILHELM VAN LANSBERG, 1875-81.
7. CORNELIS PINACKER HORDIKE, 1888-93.
8. FREDERIK S. JACOB, 1851-84.
9. JAMES LONDON, 1872-75.
10. JAN JACOB ROCHUSSEN, 1845-51.
11. PETER MERKUS, 1841-44.

12. WILHELM ROOSEBOOM, 1866-69.
13. L. A. J. W. BARON STOFF VAN DE BEELE, 1861-66.
14. OTTO VAN REEN, 1884-88.
15. DOMINIQUE JACQUES DE KEESEN, 1836-40.
16. JHR. CARL HERMAN AART VAN DER WICK, 1893-99.

distinctions and be left in the command of his troops, though he was not to use them again in this war. Diponegoro was deeply mortified at this desertion of his chief lieutenant, but he still kept up what had now become a perfectly hopeless struggle. With a few followers he dodged from place to place, followed by a body of Dutch troops. At length he sent an intimation to Colonel Cleerens, who was in charge of the pursuing detachment, that he was desirous of surrendering to General De Kock. Negotiations followed without any result, and it seemed from Diponegoro's actions—his repeated breaches of the armistice that had been

East Indian possessions and the necessity for the introduction of drastic reforms in the system. As an outcome of the strong feeling which prevailed on the subject in influential quarters in Holland, Commissioner-General Du Bus, to whom reference has already been made, had been sent out with special instructions, settled by royal decree of September 13, 1825, to reorganise the Government. Du Bus was directed to give his attention specially to certain points, the most important of which were: (1) the extent to which the Government of India had followed the official regulations

speaking. Du Bus's mission resolved itself into a crusade in favour of economy. Above all things, the Home Government wanted to put an end to the heavy and increasing drain which the colonies were upon the country's finances, and the Commissioner-General was expected to arrange this if he accomplished nothing else. His powers, as has been stated, were of the widest. They were far more extensive than those of a Governor-General; they gave him, in fact, almost unlimited authority. He made elaborate investigations extending over a considerable period and covering practically every department of the administration. The conclusion he reached

* He died in 1855 at Macassar.

was that the Javanese of themselves were too lethargic ever to make the country produce more than sufficed for their immediate needs, and that in order to make it profitable it was essential that Europeans should be introduced to aid with their capital and enterprise in opening up the country. In his famous report of May 1, 1827, in which his views were elaborated, he proposed that plots of uncultivated land should be given on easy terms to settlers, who should receive assistance in the matter of native labour and encouragement from the Government. There was a good deal of sound sense in Du Bus's proposals, which after all were a mere anticipation of methods which have since found the widest and most successful application throughout the tropics. But the times were not propitious for the making of a striking new departure such as he outlined. Java itself was still in the throes of a fierce internecine war, and the home country, before his report had been long received, was riven in twain by the revolt of the Belgians and the ultimate secession of the southern provinces which had been added to Holland by the provisions of the Treaty of Vienna. The report was necessarily in these circumstances thrust into the background, and when, on January 16, 1830, Johannes van den Bosch took over from Du Bus the duties of Governor-General, on the latter's retirement through ill-health, he found it necessary, while accepting many of the principles of internal government which Du Bus had introduced, to adopt a surer and quicker way of obtaining funds, and so relieving the sorely pressed Dutch Exchequer, than his project for European colonisation.

Van den Bosch's proposals, which were afterwards to go down to history with the name of "the culture system," embodied a radical change in the conditions of land tenure. His scheme contemplated that the Javanese cultivator should in future resign to the Government one-fifth of the area of his rice fields, and that on this portion of his holding he should cultivate certain produce, the character of which was to be indicated to him by Government. In return for the use of the land and the labour expended upon it, the cultivator would receive exemption from the ground tax, which according to calculation reached about the amount of profit that the new system would produce. It was contemplated that in the event of the products of culture realising a higher sum than was represented by the taxation, the balance would go towards the improvement of the *desah*. A further consideration kept in view was that all losses through bad crops—not the result of lack of zeal—should be borne by the State. The arrangement appeared to offer great advantages to the Government, which, as it were, by a stroke of the pen, secured a direct interest in a fifth of the cultivated territory included under its administration. But it was open to several grave objections, leaving out of question its oppressiveness. In the first place, the door was opened to abuses on the part of officials, who, under the edict, were given power over every member of the agricultural community, which could be readily turned to evil account. Another factor which was bound to work disadvantageously was the circumstance that the subordinate civil servants had no personal interest in the success of the enterprise, and so were not likely to give the amount of oversight which was necessary to ensure the best results. Further, it is obvious from the nature of the system that while the State was exposed to all the risks of loss its profits were of an uncertain quantity. The culture

arrangements in due course were put into operation throughout the archipelago. Save in the case of a few districts they worked most unsatisfactorily. Before the regulations had been long enforced, gross abuses appeared, and these eventually became stereotyped in the administration. By pressure of an inexorable law and under the fear of stern taskmasters the inhabitants were compelled to allot more and more of their fields to the Government service, or what from their personal standpoint was almost as bad, leave an increasing area of his share untilled. Native customs and usages were no longer respected, and in defiance of Van den Bosch's stipulations, no surplus was ever returned to the natives, though frequently the accounts would have justified the making of the concession. Something of the strenuousness of the measures for the enforcement of the regulations was unquestionably gained from the financial exigencies of the Home Government. In the years following 1830, Holland suffered acutely from the strain of the operations which had to be prosecuted against Belgium, and Netherlands India, instead of as heretofore receiving support from home, had to go to the rescue of the mother country. To supply exigent demands constantly sent out, money had to be obtained in some fashion, and consequently the screw was put on by the rigid application of the culture system. Under Van den Bosch himself the evils of the system were not so acutely felt as subsequently, as he was careful to follow the guiding principle he had laid down—that an equitable distribution of advantages should be made between the Government and the native cultivator. It was when, to scrape together money to send home, this golden rule was departed from in the terms of office of his successors, J. C. Band (1833-36), De Eerens (1836-40), and Merkus (1841-44), that the most baneful consequences of the system were made manifest. By far the worst period was in 1836, when the Council of India was reduced from an executive to an advisory body, and the Governor-General was left to wield practically unchecked power. By a process of degeneracy, the system ultimately became a mere scheme of compulsory cultivation in which revenue production was the sole test of success. In order to stimulate zeal, the European officials and the native chiefs received culture products as a reward for exceptional efforts, and few questions were asked as to the manner in which the regulations were enforced. The terrible consequences of the policy were manifest in an increasing scarcity of food products, leading up, in some districts, to a condition of actual famine. This state of affairs, with temporary mitigations due to the greater humanity of particular officials who were charged with the administration, continued until 1870, when a scheme of reform was introduced which relieved the native cultivators of the most oppressive of the burdens imposed upon them by the system.

Though the difficulties of the Netherlands Indian administration in this early nineteenth century period were mainly financial, they were not by any means free from the active trouble which had caused them anxiety in the years immediately following the resumption of the Government. Indeed, before the echoes of the Java War had entirely died away, the Padries of the West Coast of Sumatra were again on the warpath. They eventually became so aggressive in their dealings with the native population that the Dutch were bound to intervene. An incident which can only partly be put to the account

of the unruly tribe precipitated the action of the Batavia Government. In 1829, Achinese pirates attacked the island Pontjan, in the Bay of Tapaoeli, and massacred part of the small garrison. Measures were promptly taken against the intruders, with the result that severe punishment was inflicted upon them by General Michiels with a force of Dutch troops. Notwithstanding this lesson, the Achinese in January, 1831, blockaded the Dutch port at Ajer Bangis, finding in the work the active co-operation of a large body of Padries. After a long and strenuous struggle, the attack was repulsed, and the port freed from the unwelcome attentions of the intruders. But it had now become evident that there could be no permanent peace until the power of the warring elements had been absolutely crushed. To this end, Governor-General Van den Bosch, in 1832, sent a strong force to Sumatra, utilising for the occasion the services of Sentot, Diponegoro's able lieutenant, and his legion of hardy Javanese tribesmen. Naras was taken, and the Marapalm was occupied by the Dutch troops. These acts were construed by the Padries into a definite declaration of war, and they threw themselves with characteristic ardour into a struggle, to which they, as was their wont, gave the complexion of a holy war. Hostilities once started in Tanah Datar soon became general over the entire region. General Michiels took several strongholds of the enemy, and established the Dutch authority in Natal, Tapaoeli, and Baroes. Reinforcements under Lieut.-Colonel Vermeulen Krieger, after a prolonged struggle, occupied Lintan in the high ground in the interior, and once installed there soon drove the Padries from the district again. When at last, Bandjol, the focus of the resistance, was taken on September 21, the Dutch power on the West Coast seemed firmly established. But the appearances of peace were delusive, for, although almost all the Malay States on the West Coast acknowledged the Dutch authority, there were indications that the population, secretly stirred up by the Padries, remained hostile. In January, 1833, the entire Dutch garrison of Bandjol, which at that time was rather weak, was massacred, and a force of 112 men, under Krieger, escaped annihilation in making a retreat from Pisang to Boekit Koeriri only by the splendid dispositions of the commander and the bravery and resourcefulness of the men. Attacked by enormous numbers and sorely pressed, the little column yet maintained an undaunted front to the foe, and eventually got through, though with a loss of seventeen men killed, and nearly every survivor more or less wounded. This retreat afterwards became famous in Dutch history as one of the greatest exploits of Vermeulen Krieger, who ranks as a national hero in Netherlands annals. The situation had now become critical. The Dutch had no longer to reckon with merely a local rising, but with a rising in which the whole of the population were concerned. Operations were resumed by the Dutch with vigour, but for a long time no impression was made upon the situation, mainly because of the difficulties of the country, and the universal character of the opposition. It was not until 1837, when General Cochiuis, Commander-in-Chief of the Dutch forces, and Commissioner for the West Coast, occupied Bandjol, that the resistance of the enemy was broken, and the course was made clear for the establishment of the Government of Sumatra West Coast on the ruins of the historic Empire of Menangkabau.

CHAPTER XX.

British Protests against the Fiscal Policy of the Government of Netherlands India—Rajah Brooke's Enterprise at Sarawak—Dutch Protests—Settlement of Borneo—Expedition to Bali—New Constitutional Era in Netherlands India—Reform in the Culture System—New Agrarian Law—The Achin War—The Lombok Expedition—Operations at Djambi and Siak—Sumatra East Coast Residency established—Abolition of Slavery—Commercial Development—Administrative Reform—Conclusion.

CANNING'S sanguine hopes that the Treaty of 1824 would put an end to the bickerings between British and Dutch were destined not to be realised. Ere two decades had passed away, clouds had once more arisen on the horizon of the two nations in the East, tending to the disturbance of their friendly relations. One cause of friction was the imposition by the Netherlands India Government of a heavy scale of duties on foreign goods entering Java and the introduction in 1834 by the Governor-General (Baud) of a regulation declaring and ordaining that "the importation of cotton and woollen goods manufactured to the westward of the Cape of Good Hope into the dependencies of the Netherlands Government would not be permitted except such importation should, in the first instance, have been made either in Batavia, Semarang, or Sourabaya, in which case such woollens and cottons are to be accompanied by a certificate from the controller of customs of one of these places, that the same goods have been imported into, and again exported from one of these ports." It was contended on the part of the British that the combined effect of the increased duties (amounting to 70 per cent.), and of the preferential arrangement embodied in the regulation above quoted was to constitute a serious infringement of the clause of the treaty which guaranteed to both contracting parties free intercourse in their respective territories. Lord Palmerston, who was Foreign Secretary, was at first loth to take up the complaints of the traders, many of which relating to the Dutch actions in Sumatra were of a character quite unjustified by any stipulations in the treaty. In reply to a memorial from the Glasgow Chamber of Commerce, in which the grievous effects of the Dutch policy upon British trade were dwelt upon, the old statesman in a despatch pointed out that from figures supplied by the Chamber itself, it appeared that "the value of British importations into Java in the six years from 1834 to 1839, both inclusive, increased, as compared with the value of such imports during the preceding six years, from Fl. 10,000,000 to Fl. 18,000,000, while the value of Dutch imports during the two same periods decreased from near Fl. 31,000,000 to Fl. 21,500,000." Lord Palmerston, in his immitably dry manner, remarked that it did not appear to him "that if any foreign nation enjoyed a similar share, and such an increasing share, of the trade to any British colony, the Government of that country would be justified in representing the prospects of its merchants engaged in such trade as threatening those merchants with ruin." However, Lord Palmerston caused general representations to be made at The Hague on the subject of the impediments to British trade which the enormously heavy duties and the preferential regulation constituted, and in reply the Dutch Government announced that the edicts complained of had been revoked, they having served their end, which was to prevent

the importation of Belgian goods into Netherlands India during the war between Holland and Belgium. A more serious question which was discussed at the period related to the validity of a British treaty with the Rajah of Siak concluded in 1818. Palmerston maintained that the Treaty was unaffected by the clause of the Treaty of 1824 conferring exclusive rights upon the Dutch in regard to Sumatra, since the Treaty was mainly prospective and contained no engagement to abolish existing treaties with the native powers; but the Dutch Government strenuously contested this interpretation of the arrangement made, asserting that the treaties concluded by the British Government with

he contracted a friendship with Muda Hassan, the Rajah of Sarawak, and helped him against some rebels who were creating disturbances at the period. Before the troubles ended, Brooke quitted Borneo, but returning the next year 1840—he took an active part in the suppression of the rebellion. By his action, he so entirely gained the confidence of Muda Hassan that that prince offered him the position of ruler of the country. Brooke, fascinated with the idea of playing the rôle of ruling prince, albeit the stage was distant and troubled, accepted, and after being confirmed in the office by the overlord, the Sultan of Brunei, and duly installed at Kuching on August 18, 1842, he settled



ACTION AGAINST THE CHINESE IN BORNEO, MAY 16, 1853.

(From Kepper's "Wappenteiten.")

native powers were all abolished by implication by the Treaty of 1824. The controversy was prosecuted for some time, on the side of the British with considerable vigour, but no very definite result was at that juncture reached. It was left for the Treaty of 1871 to clear away the misconceptions which existed, and to give the Dutch undisputed sovereign rights in Sumatra.

A further question in some measure arising out of the Treaty of 1824 was the occupation by Sir James Brooke of the Sarawak territory in Borneo. Brooke's romantic adventure in Eastern seas is a well-known chapter in the story of British expansion over-seas. Originally an officer in the Royal Navy, Brooke in 1835 inherited a fortune of £30,000, and having imbibed with his sea training a taste for distant travel, he purchased a schooner of 142 tons and in her sailed for Borneo. During his visit there,

down to his new career. In the course of his cruises, Brooke had put in at various Dutch ports, and suspicious were aroused amongst the officials as to his intentions. The cession of the island of Labuan to Brooke on December 18, 1846, strengthened the disquiet which was felt, and as an outcome of that feeling representations were made to the British Government on the subject, the despatch of the Dutch authorities claiming that the annexations were an infringement of Article 12 of the Treaty of 1824, which bound the British Government to make no establishment on "the Carimon Isles, or on the islands of Battam, Bintang, Lingin, or any of the other islands south of the Straits of Singapore." Lord Aberdeen, who by that time had become Foreign Secretary, declined to accept this reading of the Treaty, observing that Labuan was merely to be used as a station for coaling

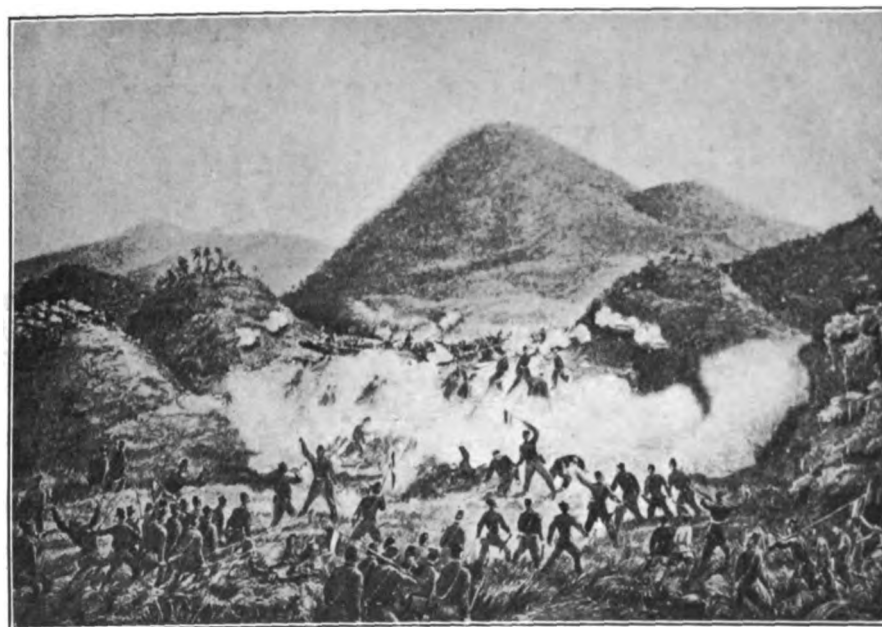
ships, and pointing out that its occupation would tend to the suppression of piracy. The Dutch Government, anticipating that little was to be gained by protest, decided upon an assertion of its authority over certain areas. In 1844 a treaty was concluded placing Koeti under the protection of Holland, and in 1845 Commander Weddick, of the Dutch East India service, was sent with a small flotilla along the west coast of Borneo charged with the mission of extending Dutch power in that direction. Weddick discharged his duty well, and a large stretch of coastal territory was definitely brought under the oversight of the Batavia Government. Borneo, owing to these measures, became much better known in Europe, and its commercial value, especially as a possible coal-producing country, grew to be widely recognised. So it happened that when in 1877-78 the Sultans of Solok and Brunei surrendered a part of their territory to Messrs. Van Overbeek & Dent, and the rights thus obtained were in 1881 transferred to the British North Borneo Company under

the Dutch were Chinese settlers who had formed little self-governing communities along the coast and sturdily resisted the efforts made to bring them under Dutch authority. In 1850, owing to their opposition to Government measures, a military force was sent against them. This was the forerunner of a series of expeditions culminating in 1855 in the extinction of all the Chinese Kongsis or societies save one. This body continued to exercise power until 1884, when after an obstinate resistance, which cost the life of two Government officials, it also was extinguished. The position in the Western Province was thus rendered comparatively secure, but at Bandjermasin cause for anxiety still existed in the fact that the authority of the Government was resisted by an influential section of natives who strongly resented the action taken by the Dutch Resident in 1857 in selecting for the then vacant Sultanate an unpopular member of the former prince's family, and who, when direct Dutch government was established in 1863, retired to the inaccessible interior and there set up a centre

or cliff law, under which stranded vessels with all that they contained, the crews not excepted, became the property of the ruling prince. The arrangement had not been in force long before it was flagrantly violated by the application of the *Kliprecht* in the case of vessels from Javan ports which had the ill-fortune to be driven upon the Bali coast. As remonstrances were useless, an expedition was sent against the islanders in 1846, with the result that the native princes tendered their submission and agreed to pay the cost of the expedition as indemnity to the Dutch Government. Owing to a renewal of the troubles a second expedition was despatched to the island in 1848, but it accomplished very little, and in the following year a third expeditionary force was organised under the command of General Michiels. The campaign, ably planned and conducted with vigour, ended most satisfactorily. The almost impregnable stronghold of Djaraga was captured and destroyed, and with the help of one of the Lombok princes, who subsequently lost his life in a night attack, Karang Asem was taken. Thoroughly beaten, the princes were glad to conclude a treaty acknowledging the sovereignty of the Dutch, abolishing piracy and the slave trade, renouncing the *Kliprecht*, and agreeing that in lieu of an indemnity the Dutch should occupy Bali permanently.

The year 1848 was memorable in the history of Netherlands India for the commencement of a new constitutional era. Under regulations made in that year, based on the principle approved in the constitutions of 1814 and 1815 that the supreme power of supervision is vested in the head of the State, the States General were given a voice in the legislation for the colonies, and as a consequence a wider public interest was taken in Holland in the affairs of the country's Indian possessions. Some reformers, notably the ministers Palud and Rochussen, were desirous of carrying the oversight a step further by bringing the regulation of the administration and the accounting of the colonial finance under the control of Parliament. But their proposals, made respectively in 1855 and 1858, were not accepted by the Second Chamber. At length, however, in 1864, Minister Fransen van de Putte saw his "*Comptabiliteitswet*" accepted, and since 1867 the Indian Estimates have been fixed by the States General.

Important as these changes were, they were quite surpassed in interest by alterations introduced at about the same period in the local administration, and particularly in the culture system. For a very long time public opinion in Holland had been uneasy about the justice of the methods adopted for raising revenue in the East. The stories which from time to time got into circulation relative to the oppression to which the natives were subjected, and of the unhappy consequences that sometimes resulted, inspired the feeling that the law stood in need of radical amendment. A publicist who did much to arouse public opinion was Baron van Hœvell, originally a pastor in the Dutch Reformed Church in Java, who, entering the States General in 1840, commenced a campaign in favour of reform. Largely owing to him, salutary changes were made in the administration in many respects, but notably in the culture system. Gradually the culture system was abolished by a process of reduction carried through the terms of office of several Governors-General, but which was most marked in the administration of J. J. Rochussen (1845-51), who, after serving his period of office in the East, was elected a member



THIRD EXPEDITION TO BALI, ACTION OF APRIL 15 1849.

(From Gerlach's "Fastes Militaires.")

a charter from the British Government, the Dutch again raised questions of territorial rights. In 1888 the British Government decided to extend its protection over Sarawak, Brunei, and the territory of the British North Borneo Company, and the opportunity was then availed of, in conjunction with the Netherlands Government, to appoint a commission to demarcate the respective boundaries of British and Dutch territory. The work having been satisfactorily carried out, a treaty embodying the results was made in 1891 between the two powers. With the conclusion of this arrangement, the last important point of difference between the British and Dutch Governments disappeared. But the consolidation of Dutch power in the present Western Province of Borneo was a matter of no small difficulty, and, before this stage in the relations of the two powers had been reached, had necessitated a heavy expenditure of both blood and treasure. The principal opponents of

of resistance. Efforts which have been made from time to time to dislodge this disaffected faction have been successful, and the region is now quite peaceful.

The extensions of Dutch territorial influence carried through in Borneo in their later stages went hand in hand with the execution of measures bringing the island of Bali on the extreme east of Java under Dutch rule. In the days of the defunct East India Company, a connection was kept up with the authorities of the island, who assisted in the supply of slaves to the Company. An attempt was made in 1817 to renew the old relations, but the Dutch Government received little encouragement from the same prince who governed the island. In 1830, fresh overtures were made from Batavia, with better results. In that year, Commissary Koopman succeeded in concluding a treaty with all the princes of Bali and Lombok, in which they acknowledged the Dutch sovereignty, and agreed to renounce the *Kliprecht*,

of the Second Chamber, and in 1858 was appointed Colonial Secretary. An influence which hastened the end of the régime was the publication of a work entitled "Max Havelaar," in which the abuses of the system more especially in the Lebak district (Bantam) were unsparingly laid bare. The author, whose pen name was "Multatuli," was Mr. E. Douwes Dekker, a former high official in the Dutch East Indies. He was a writer of remarkable literary skill, and was able to invest his subject with a charm which made the story highly effective. Such was the sensation produced, that if the Government had not by this time seen the entire wisdom in its own interests in introducing a radical change in the methods of government, their hands would probably have been forced. The final blow was dealt at the system by the withdrawal of the arrangements relating to sugar, which were condemned at the outset by the simple fact that the principles on which the culture was founded could never be adhered to. The coffee culture was left intact for the time being, but as this is not in operation on lands belonging to the native population it does not properly come under the culture system.

Simultaneously with the abandonment of the Government cultures was introduced a more liberal policy of treating private enterprise. In earlier days, the Government placed every obstacle in the way of independent exertion, and officials whose personal interests were involved in the maintenance of the old arrangements set their faces rigidly against the introduction of outsiders. With the new spirit that was breathed into Eastern affairs by the public discussions, a change of front became inevitable. After several unsuccessful attempts to re-adjust the administration to the new conditions in this and other important respects, the Colonial Secretary, Fransen van de Putte, in 1865, introduced a bill which, to use the words of a well-known Dutch writer, "went to the heart of the colonial question and settled the most important points" with regard to the relations which should exist between private enterprise and the State. No change was effected in the culture system as far as it remained after the many changes, but an important innovation was made by arranging for the grant to private individuals of the uncultivated land on lease, whilst the leasing of grounds held by the natives was also permitted. In other respects the bill was also most important. "The base on which it was founded," says Van der Lith, "was the grant of ownership to natives of the grounds which they cultivated. Raffles's scheme was based on the principle that the native was only an occupier. His view was that the State was the owner, subject to the restriction that the ownership only consisted of the right to part of the products of the ground, or their value in money, while he considered that the native who satisfied this obligation had the absolute right to cultivate his land and even to sell or lease it to other natives, as far as the native customs allowed—in a word, to act as the owner subject to those customs. The new stipulations giving the complete ownership to the natives was the cause of the downfall of the bill. An amendment was accepted in the Second Chamber which only guaranteed the right of use of ground by the natives. As this sapped the foundations of the bill, the Minister withdrew it."

This well-intentioned effort of Minister Van de Putte was followed by other equally abortive endeavours to solve the problem.

At last, in 1870, Minister De Waal secured the acceptance of his "Agrarian Law." This measure sanctions the issue of uncultivated grounds (belonging to the dominion of the State) to Netherland subjects on emphyteutic lease for a maximum period of seventy-five years. Nothing was stipulated in the measure about the division of land cultivated jointly by the *desahs*, but since 1874 this has been permitted in cases in which the majority of the participants in the communal advantages desire it. The permission, however, has not been taken advantage of to any considerable extent. In most instances the population returned to the old conditions. Another measure introduced by De Waal which must be mentioned was his so-called Sugar Law, passed in 1870, by the provisions of which compulsory sugar culture was gradually abolished. Under that measure, from the year 1878 one-thirteenth of the ground reserved for sugar culture was yearly withdrawn, and 1891, therefore, saw the end of the system.

and to a limited extent reserved—at least that was the claim put forward by the British Government—in the Treaty of 1824 between Great Britain and Holland. As soon as the diplomatic arrangement of November 2, 1872, was completed, two influences began to work. On the one hand, the Achinese grew more and more hostile in their attitude towards the Dutch; on the other, the Dutch authorities, with the entire freeing of their hands, were disposed to exercise a more vigilant supervision over the doings of the Achinese in some respects, though at the outset no actual extension of power was contemplated. It was almost inevitable in the circumstances that there should be a collision, more especially as the Achinese were born fighters, strong and hardy and with just that dash of fanaticism which makes an Oriental race so formidable an enemy even when pitted against disciplined European troops armed with weapons of precision. The first stage of the long struggle was reached in 1873, when, as a result of



A GROUP OF MILITARY COMMANDERS.

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| 1. GEN. VAN DER HEYDEN. | 4. LIEUT. GEN. DE KOCK. | 7. LIEUT. GEN. J. VAN SWIETEN. |
| 2. LIEUT. GEN. W. E. KROESSEN. | 5. LIEUT. COL. VERMEULEN KRIEGER. | 8. GEN. F. D. COCHIN. |
| 3. MAJOR GEN. J. H. R. KOHLER. | 6. GEN. VAN HAM. | 9. GEN. J. BARON VAN GEEN. |

Perhaps the most remarkable—certainly the most unpleasant—chapter in the later history of Netherlands India was the long and costly war waged in Achin for the assertion of Dutch supremacy in that region. For more than thirty years, Dutch troops were almost continuously in the field operating against a wily and ruthless foe. In the course of the war, thousands of men were either killed in battle or died of disease, and tens of millions of guilders were expended in the struggle. The troubles in a measure arose out of the Treaty of November 2, 1872, with the British Government, giving the Dutch Indian Government an absolutely free hand in Sumatra and notably in Achin. Up to this period, the Achinese had to a certain extent sheltered themselves behind the quasi-British protection which was derived originally from a treaty concluded with the Sultan of Achin in 1810.

the refusal of the Achinese to conclude a treaty with the Dutch, acknowledging their sovereignty, the then Governor-General, Dr. J. Loudon, decided to send an expedition to enforce the recognition of the principle. Like many other administrators in similar positions, he had under-estimated the difficulties of the task before the troops. Achin at this time was but a phantom of the old empire which played such an important part in the history of Sumatra and of the Malay Peninsula. The territory under the direct government of the Sultan, situated in what is known as "Great Achin," was very small, consisting only of his *kraton* or palace and a few villages. Along the coast and in the interior were a series of minor states owing to the Sultan an allegiance which in some instances was quite nominal. It is astonishing that a country thus situated should have been able to maintain a resistance

so stubborn and protracted as was experienced. The explanation no doubt to a large extent is to be discovered in the fact that the Sultan's cause found many adherents among the Malay princes in other parts of the Straits of Malacca, and that a continual stream of reinforcements of men and supplies was by them directed upon the theatre of war.

The opening incident of the war was the delivery in March, 1873, by Mr. Nieuwenhuyzen, Vice-President of the Council of India, of the ultimatum of the Government to the Sultan. Without much hesitation, the

fortified positions of the *Kraton*, but the troops were again driven back with heavy loss. As the prospects of success now seemed highly problematical, the expedition was withdrawn, though a few ships were left to blockade the coast. A rebuff so serious as this could not, in the interests of Dutch prestige, be allowed to remain long unavenged, so preparations were made for the despatch of a considerable force under the command of General Van Swieten, with General Verspijk as second in command, with the object of crushing the Achinese.

proclaiming the annexation of Achin to the Dutch East Indian possessions. During the fighting the young Sultan had died of cholera, and in order that there might be no misunderstanding as to the position, Van Swieten caused to be embodied in the proclamation a declaration that the choice of a new Sultan by the chiefs would be an illegal measure. He further announced that if the chiefs of the vassal states did not submit they would be deprived of their authority. This last-mentioned step was very injudicious, as it completely altered the political aims of the expedition, and by arousing the hostility of the petty chiefs who might otherwise have settled down quietly under the new régime, rendered further military measures necessary. General Pel, Van Swieten's successor, was instructed to use diplomacy rather than force to achieve his ends. But though he did his best, he found that the situation was not amenable to pacific treatment. In desultory fashion, the war continued, and eventually Pel was forced upon the defensive by the indefatigable enemy. His death in the beginning of 1876 did not render the problem of the establishment of Dutch authority easier. His successor, General Wiggers van Kerchem, came into controversy with the Governor-General, Dr. J. W. van Lansberge, with the result that after a year's tenure of office he was superseded by General Diemont. This officer conducted a very successful expedition to the coast, and the situation so improved that the Governor-General visited Kota Raja, as the *Kraton* had been named after its capture, and was there waited upon by several chiefs, who were gladdened with the intimation that, in recognition of their conciliatory conduct, the *Missigit* would be rebuilt. But the promise of the advent of a more peaceful era was delusive.

The war party in Achin, which had elected a new Sultan in 1878 after the appointment of General Van der Heyden to the supreme civil and military command, once more obtained the ascendancy and soon fresh disturbances occurred, culminating in an attack on the occupied district of Kota Raja. Van der Heyden, at the head of a large force composing a new expedition, vigorously attacked the enemy, giving them no rest, and harassing them by cutting off their supplies from the sea by a vigilant blockade of the coast. His active measures had their effect, and during the whole of 1880 there was a complete cessation of hostilities. Under the influence of the improved conditions, the blockade of the coast was relaxed, and in 1881 the government of the new province was organised. Van der Heyden repeatedly warned the Government against the danger of over confidence in carrying through his measures, and facts thoroughly justified his attitude of caution. Ere the new civil governor, Pruys van der Hoevers, had barely taken up his duties, hostile bands of the Achinese appeared on all sides, and, under the influence of the preaching of a holy war by the priests, a fierce attack was kept up on the various posts. As no adequate force was at hand to deal with the outbreaks systematically, the enemy daily increased in numbers, the situation rapidly grew from bad to worse. Instead of dealing with the trouble in the only effective way, by despatching another expedition to the scene of the disturbances, the Government took the fatal decision to withdraw its posts to a point nearer the coast. The line adopted was one which protected Kota Raja and the port of Oleh-leh. It was a well-devised arrangement from the limited point of view of local strategy, but as a measure of



THE OLD PRINCE OF LOMBOK, WITH SOME MEMBERS OF HIS HOUSEHOLD.

(From Kepper's "Wapenfeiten.")

prince flatly declined to accede to the demands. Thereupon, a military force under General Köhler was landed and commenced to attack the Achinese positions. The main assault was delivered against the *Missigit*, or principal temple, and it was met by so fierce a resistance that the Dutch troops had to fall back with serious loss, amongst the killed being General Köhler himself. Subsequently, Colonel Van Daalen made an attack on the

The troops were strenuously opposed by the Achinese, but in the beginning of 1874 the Dutch secured possession of the *Missigit*, and afterwards, assisted by some Achinese chiefs who were disaffected towards the Sultan, they attacked and captured the *Kraton*. The victory was not so decisive as could have been desired, for the Sultan, prior to the final attack, fled with his troops. Nevertheless, Van Swieten felt himself justified in formally

statesmanship it was of the worst possible wisdom. The enemy not unnaturally interpreted the move as an evidence that their protracted fight for independence was proving a success. They resumed their attacks with redoubled vigour, and their audacity was such that they penetrated even to the closed region and harassed the Dutch garrisons from within their protected lines. Apart from the heavy strain involved by the continuous fighting, the troops had to bear the burden of a good deal of sickness caused by their retention in the low marshy coast region. Their ranks were decimated with cholera and dysentery, and *beri beri*, that dread tropical malady which is common in countries about the Equator, was also a familiar acquaintance of the sorely tried force. For nine long years the weary struggle went on without any marked change in the position of affairs. In 1803 an important development arose out of an offer made by a chief named Toekoe Oemar to assist the Dutch. At about this period the Achinese were divided into two factions, and as the head of one of these, Toekoe Oemar was a man of considerable influence. His overtures were eagerly responded to by the Dutch, and joint operations were undertaken against the second faction, which resulted in the reduction of a considerable part of the country. Honours and rewards were heaped upon Toekoe Oemar, and the Dutch once more tried to convince themselves that the war was at an end. But again they were disillusioned, and this time by the very man who had most contributed to the success of the Dutch arms in the immediately preceding campaign. In 1806, Toekoe Oemar went over to the rebels, and within a short space of time the country was in a more disturbed condition than ever. General Vetter was sent as commander-in-chief at the head of considerable forces to deal with the rising. Adopting a bold initiative, he speedily turned the tide in the favour of the Dutch. He dispersed the enemy on all sides, re-occupied Great Achin, and also re-conquered some of the coast territory. With such resistless energy was his campaign conducted that the more prominent Achinese were soon glad either to submit or quit the theatre of warfare. In 1809, the death of Toekoe Oemar in an engagement deprived the rebels of their most capable leader, and the surrender in 1903 of the Sultan, elected by the Achinese in defiance of the Dutch proclamation, brought the long drawn out war practically to an end, much to the gratification of the Government, for the struggle had been exhausting, and its influence had tinged unfavourably the whole administration of Netherlands India during the period that it lasted.

While the Achin war was dragging its slow length along, the Government at Batavia had to grapple with another serious difficulty in the form of an outbreak in the island of Lombok, which for the time being put a considerable strain upon the military resources of the colony. For the proper understanding of this affair, a short account of Lombok history must be given. The inhabitants of the island are principally Sasaks, who by religion are Mahomedans, but the ruling princes in modern times have been Balinese—Buddhists as to religious profession. Towards the middle of the nineteenth century, the supreme power in the island became vested in the Prince of Mataram—one of the insular states—and this potentate made a treaty with the Dutch which they considered as an acknowledgment of their supremacy, but which he regarded merely in the light of a promise of alliance. Out of this dispute friction arose,

and the condition of affairs remained for a long time unsatisfactory. No overt action, however, was taken until 1856, when the Prince of Djembrana, one of the minor states, was deposed at the instigation of his subjects and replaced by a regent, who was assisted by a European official. This regent in turn was removed from power and sent into exile in 1866 on account of extortion, and six years later the Regent of Boeleleng, who exercised jurisdiction over a part of the island, met with the same fate. In order to put an end to the confusion, the Government at Batavia now established a provisional government consisting of a "Commission of Notable Chiefs," and this system existed up to 1882, when direct government was established. Probably owing to the changes made, the principal chief, who was known as the Prince of Lombok, became disaffected, meddled with the quarrels in Bali, and refused to receive a letter from the Governor-General, Dr. C. Pijnacker Hordijk. As remonstrances proved of no avail, it was decided in 1804 to send an expedition to bring him to reason. The enterprise commenced auspiciously. On landing, the troops

them being General Van Ham, the second in command. On learning of the disaster, the new Governor-General, Jhr. C. H. A. van der Wijck, at once sent numerous reinforcements, and with their aid the lost prestige was soon regained. The principal engagement was at Tjakra Negara, where the enemy made a stubborn resistance. Nothing, however, could withstand the ardour of the Dutch troops, smarting as they were under the sense of their former defeat, and the position was eventually occupied. Finding that his prospects were hopeless, the old prince gave himself up, and with the members of his family was deported to Batavia to end his days in easy captivity. Subsequently, the direct government of the island was resumed, and though there was still some amount of disaffection to be overcome owing to the unfavourable economic situation the population eventually settled down to what promises for them to be a prosperous future.

In several directions besides those indicated the Government of Netherlands India was compelled, in the latter half of the nineteenth century, to adopt active measures for the



ENTRANCE TO PADANG RIVER (EAST SUMATRA).
(From Marsden's "History of Sumatra".)

were well received and marched to Mataram and Tjakra Negara without the slightest opposition. As it to emphasise the peaceful character of their intentions, the native authorities agreed without demur to all the demands made upon them. The calm, however, was only that which precedes the storm. On the night of August 25 26, 1804, the chiefs of the island delivered a combined night attack on the Dutch camp at Tjakra Negara, and followed this up the next day by an assault on other positions occupied by the Dutch forces. Taken completely by surprise, and threatened by an enemy of vastly superior strength, the leaders of the expedition decided upon a retreat. The movement was made with considerable skill, and the landing place was eventually reached. But the losses sustained in the process were enormous, consisting of 385 killed, wounded, and missing. Many able officers fell in the engagement, amongst

consolidation of Dutch power. One area in which serious trouble arose was the State of Djambi in Sumatra, which came into prominence in the early history of the Dutch East India Company, as related in a preceding chapter. As far back as 1833 there was friction between the Batavian authorities and the Sultan because of a raid which the latter had made into the Palembang district. An expedition sent under the command of General Michiels had served on that occasion to bring the Sultan to reason, and a direct acknowledgment of the sovereignty of the Dutch was extracted from the prince. The effect of the lesson read on this occasion, however, only lasted for a few years, and in 1852 there was a recrudescence of disturbance necessitating the closing of the Djambi River by the Dutch. This measure was undertaken with the special object of preventing the importation of firearms into the disturbed region. But it necessarily hampered ordinary

trade, and a feeling of resentment was consequently engendered amongst the Djambi people, so that when, in 1855, a new sultan—Prince Ratoe Jahja Tacihoe'd'in—attained to power, a refusal was given to the Dutch demand for a renewal of the acknowledgment of their sovereignty. After protracted negotiations, an expedition under the command of Major Van Langen, in August, 1858, was sent to Djambi to enforce submission. A stubborn resistance was offered by the natives, but the Dutch stormed and occupied the *Kralon*, though the Sultan with a number of his principal followers managed to escape into the jungle. As Prince Ratoe failed to surrender, the Batavian Government placed his uncle, Panembahan, upon the throne, but the settlement was only one in name, for the local people refused to acknowledge the Dutch nominee, and gradually affairs in the State drifted into a condition of anarchy. At length, in 1885, Dutch garrisons were placed in the country to restore order, and there was some improvement in the conditions, but a rising against the Dutch authority in 1895 showed how impossible it was to leave the

the measures produced no practical result, a further expedition was sent under Major Van Stuwe. The forces were so skilfully handled that in a short time the rising was completely suppressed. When peace had been completely restored in 1873, the Residency, Sumatra East Coast, was established. In 1884 the Sultan resigned all claims on Siak and its dependent States, and the seat of Government was transferred from Bengkalis to Medan, the capital of Deli. But it was not until 1900 that the disputes over the succession in Siak terminated and a more orderly state of affairs was assured.

In dealing with the later history of Netherlands India, it is impossible to overlook the changes introduced in relation to the slave trade at different times. So long since as 1818, the trade was abolished as far as it related to the importation and sale of slaves. But it was not until 1860 that steps were taken to do away with the institution itself. In that year, amongst the Government regulations promulgated was one which decreed that from a specified date slavery should cease to exist in the Dutch East Indies. The

in the Straits and China, a new and fertilising stream of trade set in with the utilisation of the shortened ocean route, giving prosperity to trade and strengthening the finances of the possessions. Important Dutch shipping interests were created as a direct outcome of the new conditions. In 1870, the Netherlands Steam Navigation Company was established, and five years later the Rotterdam Lloyd Company came into the world. Rightly appreciating the significance of the commercial movement which followed in the wake of the first vessels which passed through De Lesseps' great waterway, the Dutch Government, in 1872, abolished all differential duties in Netherlands India, and at the same time lowered the existing import duties. Before this, indeed well in advance of the Suez Canal era, a valuable step had been taken in the building up of the material resources of Netherlands India on healthy principles by the commencement of cinchona cultivation. Started in experimental fashion in 1854, the industry advanced steadily until it reached the pre-eminent position which it now occupies. Two years after cinchona cultivation began, the electric telegraph was established in Java, and in 1863 a commencement was made with the railway system. The great tobacco industry, for which Sumatra is famous, and which is now so important a feature of Dutch Eastern commerce, belongs to this period, for it was in the early sixties that a start was made at Deli with the planting which now covers so wide an area in that region.

Not the least interesting feature of the Government of Netherlands India in its modern aspects is the prosecution of measures having for their object the organisation of the administration on principles in harmony with modern progress. Until quite recently, there was no coherent method followed in dealing with the scattered elements which go to make up the Dutch East Indies. In Java, the Government was conducted on well-defined lines, and the same remark applies to a greater part of Sumatra, Celebes, and the Moluccas. But in other islands the tie which bound the local populations to the central authority was of the loosest, consisting merely of treaties, usually imposed by force of arms, and containing miscellaneous provisions relating to the maintenance of peace and the observance of the laws of humanity, which were for the most part a dead letter, owing to the reluctance which the Government at Batavia had to demand their enforcement. This system, or lack of system, besides being politically and commercially objectionable, was expensive, inasmuch as the sovereign rights of Holland had to be upheld without any corresponding advantage being obtained in the shape of a participation in the local revenues. For many years, the desirability of systematising the administration was under discussion, but it was not until the end of the nineteenth century that the old policy of *laissez faire* was abandoned in favour of methods more suited to the interests of the colonies as a whole. First started in the island of Lombok in 1894, the movement now embraces practically all parts of the wide Dutch Eastern dominions, so that it may be said that the Central Government at Batavia exercises a direct and real supervision over even the remotest of the native States under Dutch protection. Not the least of the advantages which have flowed from the new régime has been a reform of the finances of the local States. By a system of control, judiciously introduced, the revenues are conserved, and expenditure is kept within proper limits.



VIEW OF PADANG HILL (EAST SUMATRA).

(From Marsden's "History of Sumatra.")

direction of affairs in native hands, and in 1900 the direct government of the State was assumed by the Dutch.

Elsewhere on the East Coast of Sumatra important changes were made in the tenure on which the districts formerly under Malay influence were held. In 1858, Siak was brought under direct Dutch sovereignty, and somewhat later the influence was extended to the neighbouring region of Deli, which at one time was a State dependent on Siak. The latter area had in 1863 witnessed the introduction of the important tobacco industry, the rise of which is sketched elsewhere in these pages, and the changed status of the territory was brought about by the action of the Malay chief of Soenggal, one of the principal districts, in declining to allow private estates in his country, and in resisting efforts to establish them. Two expeditions were despatched in 1872 to enforce obedience to the Batavian Government's decrees, but as

intention was to do away completely with the system which had obtained from the very earliest period of Dutch dominion in the East; but as often happens, owing to defective drafting the edict was nugatory as far as certain portions of the Dutch colonial possessions are concerned; and, as certain comparatively recent judicial proceedings have shown, the institution lingers in a modified form to this day in the regions which are subject to the Government of Celebes.

Commercial development in the last half of the nineteenth century was very marked in Netherlands India. The passing, in 1850, of a Navigation Act, removing the obstacles to free communication between the various ports which had previously hampered trade, had a great effect in stimulating enterprise; but it was the opening of the Suez Canal in 1869 which gave the greatest impetus to the mercantile interests of the Colonies. Here, as in the adjacent British possessions

While local rights are respected, a contribution, adequate but not onerous, is demanded from each State towards the cost of the Central Government. Out of the available local funds, public buildings have been erected, roads made, and harbours improved. Such has been the energy with which the new administration has been directed that the whole face of the country in many of the islands has been changed. Celebes, for example, which, until a few years ago, was a veritable *terra incognita* as far as the greater part of its area is concerned, has been opened up from north to south by a system of roads, while even the most remote parts of the



DUTCH TROOPS PROCEEDING ON AN EXPEDITION.

island are within easy reach of the telephone and other adjuncts of civilisation. Not unnaturally these remarkable changes were not introduced entirely without friction. There was resistance at first which had to be suppressed by the despatch to various points of military expeditions varying in strength from one hundred to even three thousand men. But once the opposition had been overcome, as it was in most cases without serious bloodshed,

the populations settled down contentedly to the new régime, which meant for many of them an immediate and striking increase in material prosperity. Now, the hold of Holland on her East Indian possessions is stronger than it has ever been at any period in her history. Throughout the archipelago her authority is respected and her direct rule is acknowledged by an infinitely larger population than gave adhesion to her sway in the palmiest days of Dutch Eastern rule. The remarkable increase which has taken place in the revenue of Netherlands India in recent years affords a convincing proof of the substantial progress that is being made under the new and enlightened conditions which govern the existing administration. In ten years—from 1890 to 1900—the revenue has increased from 142 to 180 millions gulden, or nearly 25 per cent. The fact that the expenditure has fully kept pace with this growth in income does not detract from the significance of the figures. It rather accentuates the point that development is taking place on healthy lines, the money collected in taxes being disbursed in the execution of public works and other measures of an improved and advancing administration.

So we leave these beautiful isles of the Eastern seas basking in the sunlight of their commercial prosperity. Together, they constitute a noble heritage worthy of the traditions of the great and virile race which owns them. It was often observed in the life-time of the late Queen Victoria that British India was the brightest jewel in her Imperial crown. In the same way, it may be said that Java and the other possessions of Holland in the East form the most glorious ornament of the crown of the gracious lady who occupies the throne of the Netherlands. Without them Holland would sink into a position of insignificance; with them she is able to hold her head up proudly amongst

the nations as one of the greatest colonising powers. What the future has in store for these splendid possessions is a matter upon which it would be unwise to speculate deeply. But this much may be said, that if the lessons of history have any meaning, if we are to gauge the effect of movements in Netherlands India by the standard which is used else-



A NATIVE HOUSE IN SUMATRA.

where, we cannot but conclude that a new era is opening for these overseas dominions of Holland which is destined to carry them to a far higher plane of advancement than was every dreamt of by the sturdy pioneers of Dutch colonial expansion.

THE PRESENT DAY.

It is a happy circumstance that in this final survey of the position of affairs in Netherlands India it is possible to strike a pronouncedly optimistic note. From almost every point of view, the condition of Holland's great Eastern dominions is satisfactory. The revenue is growing to a marked extent, trade is buoyant, agriculture is prosperous, and, perhaps most important of all, there is no serious political disturbance. Not, however, that Netherlands India has escaped the wave of unrest which has swept through Asia as an aftermath of the Russo-Japanese War. The problems which have troubled British India to such a marked degree have had their counterpart in Java and other parts of the archipelago, and though there has never been any dangerous political ferment, the movement of native thought has received its due share of attention from those who direct the policy of the Government of Netherlands India. Long, however, before the great conflict between Russia and Japan, there had been manifest in the administration a tendency to pay more regard to native aspirations. Under the Regulations of 1816, which practically supplied Netherlands India with a constitution, the policy outlined for adoption was that the Government should

not interfere with the natives, excepting through the regents, and that Western ideas and Western methods of education should not be introduced amongst the indigenous population. This system answered very well a century ago when the East and the West were divided by an apparently impassable gulf, but it could not survive the awakening of the East which has been witnessed in recent years, and accordingly a new policy is developing which may carry the Government very far from the ideal set out in the Regulations of 1816. The idea favoured by some of the most eminent authorities on Indian administration in Holland is that the tendency shown by Javanese and Malays of the higher classes to obtain European education and training should be encouraged and systematically directed instead of the students being left to themselves. In this quarter there is no fear that European knowledge will be prejudicial to the interests of the Government. On the contrary, it is considered that it is taken to supervise the studies of the natives at Leiden University and elsewhere, the ultimate result will be to strengthen materially the Dutch administration in the archipelago.

The peacefulness of the present outlook in Netherlands India has already been com-

mented on. But the circumstances of the situation are of such special interest as to require more than a passing allusion. Achin inevitably recurs to mind in connection with the question of peace or war in Netherlands India. For several decades a state of war continuously existed in this troubled country. It was an open wound which drained the life blood of Netherlands India, and kept back the development of the country in consequence. All this is now changed. Achin has always been in an anarchical condition, and it would be wrong to say that its state is peaceful, using that phrase in the conventional sense. But having regard to the character of the inhabitants of the country, and what has been the history of the region in the past half century, the situation is a settled one. Dutch authority is everywhere recognised, and disturbances which do occur are limited to small gangs of from ten to twenty men, whose object probably is quite as much robbery as political demonstration. These gangs are difficult to suppress, and it will probably be a considerable period before a condition of absolute tranquillity prevails in Achin. The present Civil and Military Governor of Achin is General H. N. A. Swart, who formerly as Resident of Bandhermasin, and later as Governor of Celebes and depen-

dencies, earned a great reputation as a strong and tactful administrator. General Swart has had control in Achin since May, 1908, when he succeeded Lieut.-Colonel G. C. E. van Daalen, who in 1905 had taken over the Government from General Van Heutsz on his appointment as Governor-General. The improvement in the situation in Achin dates from the time of the latter's administration. General Van Heutsz initiated a vigorous policy, which he followed up with untiring zeal. In its execution, he was fortunate to have the assistance of General (at that time Lieut.-Colonel) Van Daalen, an experienced officer, and of Hans Christoffel, a thorough campaigner, who, by sheer force of soldierly talent, had risen from the ranks to the position of captain. A small expedition, conducted in 1902 by Captain H. Colijn, did good work. But it was the larger expedition of 1904, to Gajoe and Alas, under General Van Daalen, that broke the power of the enemy, while it was to the untiring pursuit maintained afterwards by Captain Christoffel of the flying rebels that was due the submission of the Sultan Toeankoe Mohamed Dawot. After this surrender of the Achinese prince, there was still some trouble, but with the capture of the well-known chief Panglima Polim in 1907, and the Sultan's deportation ultimately to Amboina, the political sky almost completely cleared. At the present time, taxes are regularly paid. But a force of about five thousand men is maintained in the country to preserve order. This military occupation costs five million guilders, and as the revenue is only one million guilders, Achin may be said to cost the administration four million guilders annually.

On Sumatra West Coast the condition of affairs is considered to be satisfactory. It was at one time feared that the changes

introduced in the land revenue system, under which certain of the cultivators were for the first time brought into the taxation area, would create serious discontent. But such has not been the case, and, outwardly at all events, no discontent is manifested. At Bandjermasin, in Borneo, Captain Christoffel's vigorous campaign against the enemies of Dutch rule, who had given serious trouble from time to time since the attack on Tandjoeng in 1882, has resulted in the complete restoration of tranquillity. Celebes is another region where Dutch power has been triumphantly vindicated. From the time of General Van Swieten's expedition to Boni in 1850 until recent years, the position of affairs in the island was far from satisfactory. Van Swieten's operations left the work only half done, and it devolved upon his successors to secure the full acceptance of Dutch authority. The officials who ultimately brought this about were Governors Bakkers, Tromp, and Van Braam Morre. Associated with them were the assistant residents, Messrs. Bensbach and Brugman, men who were thoroughly acquainted with the native languages and manners and customs. In the most recent years, Lieut.-Colonel Swart has done excellent work as Governor of Celebes. The present satisfactory condition of the island is largely due to him.

The affairs of Djambi (Sumatra) have greatly improved in late years, more especially since 1907, when the Dutch troops defeated Pangeran Hadji Oemar, and secured the surrender of several disaffected chiefs. Bali also has been peaceful since 1907, when a military and naval expedition was sent against the Regents Badoeng and Tabanam for a violation of the law relating to Kliprecht. This expedition was under the command of Major-General M. B. Rost van Tonningen,

and carried through its work most effectually. In the final struggle, bodies of the enemy performed the ceremony known as *poepoetan*, by advancing in frenzied condition upon the Dutch force and declining quarter. Six hundred of the islanders were killed and two hundred wounded in this terrible sacrifice, while on the Dutch side the casualties were four killed and eighteen wounded. Since this rising, the island has been quite peaceful. The direct authority of the Dutch has been considerably extended. In some areas the inhabitants, seeing the prosperity of adjacent regions, have themselves asked for a change in the system.

The only other quarter to which it is necessary to refer in this brief survey is Timor. On October 1, 1904, a treaty was concluded with Portugal delimiting the respective territories of Holland and Portugal in this island. The treaty was confirmed on December 30, 1905. But at the end of that year and in the opening month of 1906 difficulties arose on the frontier, resulting in disturbances amongst the natives. It was feared at one time that the trouble might imperil the settlement arrived at in the treaty. But, with the exercise of tact on both sides, the danger was averted, and Timor is now in a completely settled condition.

In Netherlands India generally, the outlook, political and commercial, is distinctly promising. The Dutch territories are having their full share of the prosperity accruing from the development of tropical products, notably rubber, which is such a feature of the period, and it may confidently be predicted that this is no passing phenomenon, for there are few parts of the East which are better adapted to the new commercial enterprises.



KANARIELAAN TJANDI, SEMARANG.

GOVERNORS-GENERAL.

(From 1610 to 1811.)

Pieter Both (1610-14)
Gerard Reynst (1614-15)
Dr. Laurens Reael (1615-19)
Jan Pietersz. Coen (1619-23)
Pieter de Carpentier (1623-27)
Jan Pietersz. Coen (1627-29)
Jacques Speex (1629-32)
Hendrik Brouwer (1632-36)
Antonio van Diemen (1636-45)
Cornelis van der Lijn (1645-50)
Carel Revniersz (1650-53)
Joan Maetsuyker (1653-78)
Rijklof van Goens (1678-81)

Cornelis Speelman (1681-84)
Johannes Camphuijs (1684-91)
Willem van Outhoorn (1691-1704)
Joan van Hoorn (1704-9)
Abraham van Riebeeck (1709-13)
Christoffel van Swol (1713-18)
Hendrik Zwaardekroon (1718-25)
Mattheus de Haan (1725-29)
Diederik Durven (1729-32)
Dirck van Cloon (1732-35)
Abraham Patras (1735-37)
Adriaan Valckenier (1737-41)
Johannes Thedens (1741-43)

Gustaaf Willem Baron van Imhoff (1743-59)
Jacob Mossel (1759-61)
Petrus Albertus van der Parra (1761-75)
Jeremias van Riemsdijk (1775-77)
Reynier de Klerk (1777-80)
Willem Arnold Alting (1780-97)
Pieter Gerhardus van Overstraten (1797-1801)
Joannes Siberg (1801-5)
Albertus Henricus Wiese (1805-8)
Charles Henri van Grasveld (1805)
Herman Willem Daendels (1808-11)
Jan Willem Janssens (1811)

LIEUTENANT-GOVERNORS (British).

(From 1811 to 1816.)

Thomas Stamford Raffles (1811-16)
John Fendall (1816)

GOVERNORS-GENERAL.

(From 1816 to 1888.)

Godert Alexander Gerard Philip Baron van der Capellen (1816-26)
Hendrik Merkus de Kock (1826-30)
Johannes van den Bosch (1830-33)
Jean Chretien Baud (1833-36)
Dominique Jacques de Eerens (1836-40)
Carel Sirardus Willem Graaf van Hogen-dorp (1840-41)
Pieter Merkus (1841-44)
Jonkheer Joan Cornelis Reynst (1844-45)

Jan Jacob Rochussen (1845-51)
George Isaac Bruce (1850)
Albertus Jacob Duymaer van Twist (1851-56)
Charles Ferdinand Pahud (1856-61)
Ary Prins (1861)
Ludolf Anne Jan Wilt, Baron Sloet van de Beele (1861-66)
Ary Prins (1866)
Pieter Mijer (1866-72)

James Loudon (1872-75)
Johan Wilhelm van Lansberge (1875-81)
Frederik S. Jacob (1881-84)
Otto van Rees (1884-88)
Cornelis Pijnacker Hordijk (1888-93)
Jhr. Carel Herman Aart van der Wijck (1893-99)
Willem Rooseboom (1899-1904)
Johannes Benedictus van Heutsz (1904-9)
A. W. F. Idenburg (1909)

COMMISSIONERS-GENERAL.

Rijklof van Goens Jr.
Frederik Lambertsz. Bent
Jonker Hendrik Adriaan van Reede tot Drakestein
Sebastiaan Cornelis Nederburgh
Simon Hendrik Frijkenius

Willem Arnold Alting
Hendrik van Stockum
Joannes Siberg
Pieter van Overstraten
Charles Henri van Grasveld
Cornelis Theodorus Elout

Godert Alexander Gerard Philip Baron van der Capellen
Arnold Adrian Buyskes
Leonard Pierre Joseph Burggraaf du Bus de Gisignies
Johannes van den Bosch



HIS EXCELLENCY J. B. VAN HEUTSZ, GOVERNOR-GENERAL OF NETHERLANDS INDIA,
AND MADAM VAN HEUTSZ.



PALACE OF HIS EXCELLENCY THE GOVERNOR-GENERAL, WELTEVREDEN, BATAVIA.

CONSTITUTION, GOVERNMENT, ADMINISTRATION, AND LAW.

BY J. DE GROOT, Formerly First Government Secretary, Batavia.



HE revolt against Spain and the fight for faith and freedom in the second half of the sixteenth century had roused such a spirit of energy in the Netherlands that when King Philip II. of Spain in 1580 conquered Portugal and killed the Dutch Oriental trade from Portugal to the North of Europe by confiscating the Dutch vessels in Iberian ports, the Dutch, refusing to be discouraged, resolved to find a way to the East for themselves, hoping thereby to enjoy the profits which direct trade would undoubtedly bring them. In this they succeeded.

The first fleet was equipped by the "Compagnie van Verre" (Company for Remote Regions), and put to sea in 1595. It reached Java some fourteen months later, the exact date being June 22, 1596. The officer in command was Cornelius Houtman.

Other trading companies followed their example, and eventually, in March, 1602, they were all amalgamated and became the "Oost Indische Compagnie" (East India Company). This step was taken in order to avoid competition between themselves, and also to procure a monopoly against foreign rivals. The foundation of a great colonial empire rests on its imperishable merit. Though Malacca and the factories of British India, Ceylon, and the Cape of Good Hope are lost to the Netherlands, she still possesses a territory so extensive that her colonial glory may be said to depend on the retention or loss of the East Indies. And although the Company died an inglorious death more than a century ago, its name and prestige still live in the minds of many of the natives and especially in the possessions outside Java the so-called *Buiten-bezittingen* so that in those places the Government of the Dutch East Indies is invariably known by the name of "compenie."

CONSTITUTION.

The government of the Dutch East Indies was carried on by the Company by virtue of its charter. There were sixty directors of the Company, and in the early days of its existence, even more, but the care of all joint interests was conferred upon a smaller band of seventeen. They were known as the "Chamber of Seventeen," and sat alternately at Amsterdam and Middelburg (Zeeland). This "Chamber" directed all the doings of the Company, and ruled with almost unlimited authority until 1796.

In 1749, William the Fourth was President of the Chamber, and was succeeded by Prince William the Fifth, who held the office until 1795.

The Chamber was represented in India by a Governor-General, assisted by a Council known as the "Raad van Indie" (Council of India). The Governor-General and the Council constituted together the Government of the Dutch East Indies. At first, the seat of Government was at Amboina or Ternate, but on the rise of Batavia in 1610 it was transferred to that town. The institution of the Governor-General dates from September 1, 1600. In that year Pieter Both was appointed the first Governor in order that unity of administration might take the place of the discord which had arisen, mainly from the great amount of freedom formerly permitted to the various admirals. It will be seen, therefore, that the office of Governor-General has been in existence for three hundred years.

The power of the States General was limited. The Governor-General had to take the oath of fidelity to the States General, who ratified his first instructions by edict. The Company was obliged to give the States General free access to its books, but beyond that it had little authority.

The chief aim of the Company was

commercial success. Its whole endeavours were to that end, and in that way it contributed in no small degree to the prosperity of the Mother Country. The "Golden Age" of the Netherlands was practically coincident with the rise of the East India Company. But although the object of a chartered company may be to secure large profits for its own advantage, it does not necessarily follow that the country in which it operates benefits thereby. Under the administration of the Dutch East India Company the colony did not prosper to the extent it might have done, and it was not a cause for universal regret when its death-knell was rung towards the end of the eighteenth century, just at that time when more liberal ideas were springing up in Europe.

Already in 1796, shortly after the French Revolution, the Chamber of Seventeen had to give way to a "Comite tot de Zaken van den Oost Indischen Handel en Bezittingen" (Committee of Trade and Commerce of the East Indies), which was established by the Republic of Batavia. But in 1800, when the charter of the Company expired, the "Raad der Aziatische bezittingen en etablissementen" (Council of Asiatic Properties and Establishments) took the place of the "Comite." This Council consisted of nine members, who were appointed and dismissed by the Executive Government of the Republic, and who were responsible, as a Council, to that administration. When the Kingdom of Holland was established in 1806, however, the government of the colonies, and everything connected with their internal government was conferred upon the King.

Louis Napoleon abolished the Council, and created a Department for Commerce and the Colonies. He also sent out General Daendels as Governor-General, and gave him almost unlimited power, instructing him to do what he could to save what remained of Holland's Colonial Empire from

attack. That effort, however, proved to be of no avail, for under Daendels' successors Java was conquered by the British in September, 1811. The Netherlands themselves no longer existed, having been incorporated with France in 1810, so that Java

period. To ensure the efficacy of this system, the General—who became later Count van den Bosch—was made Commissioner-General prior to his departure for Europe in 1833. Since that date no more Commissioners-General have been appointed.

confirmed by law, and that the monetary system and the whole question of colonial finance must also be regulated by law. The same proviso is applicable to all other departments if necessary.

Comparatively few laws have been framed in this respect, however, as it has been thought inadvisable to limit the authority of the Indian Government too much. The laws opening the ports of the Moluccas, abolishing slavery, confirming the Semarang-Vorstenlanden railway concession, determining the export and import tariffs, regulating authors' rights, the mining law, and some others are well known.

In 1864 the Dutch Parliament acquired further control by the passing of the "*Comptabiliteitswet*" (a law which made it imperative that an annual return should be made of all income and expenditure). In this way a large measure of control is given to the Chamber of Representatives, and especially what may be termed preventive control, so that colonial policy can always be guided in the desired direction. It has the disadvantage, however, that if the Chamber goes too much into detail, the responsible Government is often deprived of freedom of expansion, is too much bound by comparatively insignificant affairs, and cannot always move as rapidly as it should.

GOVERNMENT.

The government of the Dutch East Indies may be divided into four parts:—

1. The Superintendence exercised by the Sovereign;
2. The Central Government exercised by the Governor-General—in some cases in accordance with the Council of India;
3. The Civil Service, which plays a prominent part in inland government; and
4. Provincial and local self-government carried out with the aid of provincial and local councils.

SUPERINTENDENCE.—Until 1848 the superintendence rested exclusively with the reigning house. In that year, however, the task of legislation, so far as the Dutch East Indies was concerned, was partly transferred to the legislature in the Netherlands, although the Sovereign still retained a large part. The Sovereign legislates and governs through the intermediary of the Colonial Secretary, whose signature is required for every document issued by the Sovereign in his capacity of superintendent. In this way the minister assumes the responsibility.

All proposals made by the Sovereign to the States General, and also all general Government measures dealing with the colonies, must be examined by the Council of State. This is in accordance with the Dutch constitution, which also provides that, if necessary, the King can consult the Council of State on any matter.

The government of the colony, speaking in the strict sense of the word, and so far as it is exercised by the Sovereign, centres in the Governor-General. The instructions issued to this official emanate from the King, but the necessary authority to ensure their application is provided by the constitutional and other laws, among which may be mentioned the Indian Government Regulations.

In this manner the ruler supervises all foreign relations. He declares war, and concludes and sanctions treaties with other powers. He cannot ratify treaties, however, dealing with alterations of State territory, financial obligations of the State, or any



GOVERNMENT OFFICES, WATERLOO PLEIN, BATAVIA.

was really a French possession when it fell into the hands of the British.

The British Government incorporated the island with British India; it was proclaimed a dependency of Bengal, and placed under the administration of the famous Lieut.-Governor Thomas (afterwards Sir Thomas Stamford Raffles).

Raffles was a pronounced opponent of the policy of the Dutch East India Company, and made his presence felt in many ways. He is regarded as the founder of the policy which placed the sovereign obligations of the ruler above his commercial interests.

In March, 1816, Raffles returned to England, and Mr. John Fendall took his place. In the meantime the Netherlands had regained their independence, in 1813, and by virtue of the convention concluded with Great Britain on August 13, 1814, Holland's East Indian possessions were handed back to her. The constitution of 1814 conferred the government of the colonies exclusively upon the sovereign prince, which meant that the possessions became a Crown Colony.

King William I. at once appointed three Commissioners-General—Baron van der Capellen and Messrs. Elout and Buyskes—to receive the colonies from the British, and to place the administration on a firm footing. Java was handed over to the Dutch on August 19, 1816, and the other possessions three years later. In 1819, Baron van der Capellen took the government of the colony under his sole charge, having been appointed Governor-General prior to his departure from Holland. He was succeeded by Burggraaf du Bus de Gisignies, who was sent out by the King to supervise the financial administration in 1826. The Commissioners-General who had previously been appointed by the Company were retained, but held only a nominal appointment.

In 1830, General Johannes van den Bosch, having been appointed Governor-General, introduced the notorious system of "culture" which dominated Dutch politics for a long

The absolute Government by the Crown did not last long. As early as 1840 the unfavourable financial position of the colony gave rise to the interference of the States General, and in 1848 the new constitution of the Netherlands gave them a much more pronounced right to interfere. The scope of the legislature was thus built on such a firm foundation that it needed not the slightest alteration when the constitution was revised in 1887. The government of the colonies was still vested in the King, but the "*Reglement op het Beleid der Regeering van N. Indie*" or "*Indische Regeerings Reglement*" (Regulations for the Administration of the Indian Government) were fixed by law, and the King was bound to give annually a concise report of the administration and the state of affairs in the colonies. This was known as the "*Koloniaal Verslag*," or Colonial Report.

This gave the Dutch Parliament great influence in the administration of affairs. A law was, in fact, a regulation proposed by one or more ministers (in colonial matters, by the Secretary for the Colonies), who were previously advised by the Council of State. This was then ratified by the King if agreed to by both Chambers of the States General. The Second Chamber, moreover, had power to propose amendments. In this instance, the examination of the Colonial Report by Parliament gave them power of repressive control.

The law known as the "Indian Constitution" came into force in September, 1854, and is still in force, although it has been amended on several occasions. Its fundamental principles, the ethical element of which is far more pronounced than formerly, have stood the test. The sole aim of the Government for years past has been to create a sensible policy which would forward the prosperity of the country and the people.

The constitution of the Netherlands further contains the proviso that treaties touching on alterations to State territories must be

stipulations concerning legal rights without the assent of the States-General. He is authorised to establish Governmental settlements in the Dutch East Indies, and to divide the colony into provinces. He has the right of coinage and of having his effigy placed on the coins; may grant orders of knighthood and other distinctions, and permit his subjects to accept foreign orders, titles, ranks, and dignities. Without his consent no modifications can be made in the existing institution and control of the Christian communities. He has, furthermore, a share in the financial administration.

The appointment of Indian civil servants rests principally with the Governor-General, but the King appoints the Governor-General, the Lieutenant-Governor-General (should such an official be nominated), the Vice-President and members of the Council of India, the President of the High Court of Justice of Netherlands India, and the President and members of the General Chamber of Accounts.

The Vice-President and members of the High Court of Justice cannot be dismissed by any but the King.* The Lieut.-General, Commander-in-Chief of the Indian Army, and the Major-Generals are also appointed and removed by the Sovereign. When taking service in the Netherlands, however, officers of the Indian Army receive their commissions from the King, who can also remove Indian officers and civil servants when they are in the Netherlands. The command of the naval force of the colony, which is part of the Dutch Navy, is the gift of the Sovereign, who usually appoints a rear-admiral to the post, the officer invariably being promoted to the rank of vice-admiral on his appointment.

No changes may be made in the civil service without the King's sanction if such changes involve increased expenditure, and in this way the Sovereign has a firm hold on all Indian affairs. The authority he thus wields is usually granted by Cabinet rescript.

A number of other details of administration require the royal sanction, such as duties and taxes, while in some instances the Governor-General is supplied with special royal instructions. These are all prepared by the responsible Colonial Secretary at The Hague, and delivered by him to the Governor-General. The result is that the Governor-General regards these ministerial mandates as of especial value, and acts upon them accordingly.

In comparison with British India it will be observed that the Dutch Colonial Secretary has no Colonial Council in the capital of the empire. The want is not felt, owing to the fact that the Colonial Department of the Council of State, which is composed of three very capable men fully conversant with Indian affairs, takes the place of the Colonial Council.

CENTRAL GOVERNMENT.—The government of the colonies and possessions of the State in Asia is exercised in the name of the Sovereign and by virtue of the Indian Government Regulations through the Governor-General, who is sworn to observe the terms of those regulations, all other laws, and all royal decrees and resolutions. He is responsible for the government of Netherlands India, being the King's representative. In several instances, however, he must ascertain the view held by the Council of India, and in some can move only with the consent of that Council. Under special circumstances, he may take the responsibility upon himself

should it be expedient for him to do so.

The Governor-General is assisted by a large staff of civil servants. He has under him the heads of the various departments engaged in the general administration of the country, such as Justice, Inland Administration (including Public Worship and Industry), Agriculture, Public Works, Government Works, Finance, Army, and Navy. The heads of the Provincial Councils, and especially Governors and Residents, are often of great assistance to the Governor-General. Those officials in charge of the civil departments are called "Directors," while the naval and military departments are under the care of their respective commanders.

There is further a bureau of clerks and subordinate officials, supervised by a General Secretary.

As has been stated, the Sovereign has power to appoint a Lieutenant-Governor, but, so far, it has not been found necessary to fill this position.

The first duty of the Governor-General is

is part of the duties of the Governor-General to see that this is done. Public instruction, which includes the establishment of schools for the native inland population as well as for the whites, is also subjected to his constant care.

Being responsible for the maintenance of authority, as well as of peace and order in Netherlands India, he is authorised to issue deeds of settlement to strangers, and possesses great power over the Press. He is further enabled to take political measures against any persons considered dangerous to the preservation of public peace and order.

Being Commander-in-Chief of the Army and Navy in the Dutch East Indies, the Governor-General controls both these forces. The administrative offices of the Navy, however, are under the control of the Dutch Admiralty. In case of war or rebellion he is empowered to take all necessary measures for the safety of the Empire in India, even such as would require the King's authority under other conditions. He may declare martial law or a state of siege in the whole



PALACE OF H.E. THE GOVERNOR-GENERAL AT BUITENZORG.

to see that the laws are duly observed. He orders them to be published in the *Staatsblad van Ned. Indië* (Government Gazette of Netherlands India), and in the official newspaper *de Javasche Courant*. He issues the necessary instructions and orders to the civil servants, although he leaves the actual details to other officials, merely seeing that they are duly carried out. His authority extends over all in the Dutch East Indies, and he is respected and obeyed as the representative of the Sovereign.

The native population is committed to his especial care, and he is bound to look after their welfare. He holds special instructions regarding conscription and Government "cultures." He sees to it that useful industries are not hampered by unnecessary impediments whenever the local government of a district is changed, and also that the rights of the people are duly observed. With regard to religion, all sects must follow the terms of the General Regulations, and it

or any part of Netherlands India, and has extensive legislative authority.

The Government Regulations authorise him to declare war, make peace, and conclude treaties with Indian princes and peoples, provided the King's commands be observed.

It goes without saying that the Governor-General possesses further powers, but the work is largely carried out by subordinates, only final decisions in important cases being referred to him. To simplify his task, several less important affairs are relegated to the departmental chiefs and heads of provincial administrations, a change largely brought about by the present Governor-General, Lieut. General J. B. van Heutsz, who retired from the army on his appointment as Governor-General.

Although the Sovereign appoints the Governor-General, it is the Cabinet Council which selects the person thus honoured. The term of office is usually five years, a period not fixed by any set rule, but adopted

* It is, of course, in an impersonal sense that the writer uses this phrase in the article. The supreme power at present is, it is scarcely necessary to point out, vested in Queen Wilhelmina. Ed.

by custom. The candidate to the dignity of Governor-General must, according to the Government Regulations, be a Dutchman and over thirty years of age. The selection is made usually of a man who has previously done good work in the service of the State, either in Holland or in Netherlands India. It is claimed for the latter that colonial service and acquaintance with the Indian officials are of great value; but there is a counter feeling in other quarters that a man who has had wider knowledge, and who can look at things from a broader point of view, being free from personal influence, makes a better Governor-General.

A further stipulation is that there be no relationship, even to the fourth degree, between the Governor-General and the Lieutenant-Governor-General, the Vice-President, or the other members of the Council of India; nor yet between him and the Government secretaries. This rule is in order to prevent nepotism which was not uncommon in the days of the Dutch East India Company. If a forbidden degree

the Governor takes up his residence at Tjipanas, in the Tjandjoer division of the Preanger Residency. Without royal authority he cannot visit the Dutch possessions beyond Java.

The yearly salary of the Governor-General amounts to £11,000, besides which he is granted a large sum for travelling and other expenses.

Since the time of Daendels, the Governor-General has borne the title of Excellency and been allowed three adjutants. The commanders of the army and navy also bear that title on attaining the rank of lieutenant-general or vice-admiral respectively.

The Governor-General is responsible to the King for everything he does in connection with his office, and must inform his Sovereign, through the medium of the Colonial Secretary, of the more important details of his administration. In case of illness or absence, he may transfer his authority to the Lieutenant-Governor-General (an official who has never been appointed, however), the Vice-President of the Council

the Troops) and two members. Its present composition has come down unchanged since 1836, and consists of a Vice-President and four members. The holders of office are Mr. D. F. W. van Rees (Vice-President), and Mr. F. A. Liefcrinck, Dr. C. H. Nieuwenhuys, Dr. J. G. Pott, and Mr. R. H. Ebbink. Their annual allowance amounts to £3,000 and £2,400 respectively. As a rule the Council is made up of two former Governors of Java or the outlying possessions, one ex-Judicial Chief Officer, and one ex-Chief Officer of the Central Bureau. The choice of the fifth member is left open. During the sway of the Company, the Council possessed the highest legislative and executive powers in the Dutch East Indies, for it was really the Government, having the Governor-General as chairman.

In 1836, a great change was effected. The Governor-General Van den Bosch inaugurated the notorious "culture system" during that year. He met with vigorous opposition on the part of the members of the Council. One member, Dr. Pieter Merkus, who eventually became Governor-General himself, was especially antagonistic to Van den Bosch's scheme. In order, probably, to beat down this opposition, the Governor-General assumed the title of Commissioner-General and thereby obtained practically unlimited authority. On his return to Holland, he was appointed Colonial Secretary, in which capacity he drafted a new set of Regulations. These robbed the Council of India of all executive power, and made it nothing more than an advisory body. The Governor-General, according to the new Regulations, was still to consult the Council in matters concerning the daily government, but the final decision remained with him solely. The result of this was that the Council was practically isolated. The Governor-General rarely attended the sittings of the Council, and all business was conducted by letters.

In the Government Regulations of 1854, a middle course was adopted. The Governor-General governed exclusively, and the Council of India still remained an advisory body; but in some instances the recommendations of the Council possessed special significance. In the first place, the sanction of the Council was necessary to the establishment of resolutions. The Governor-General, moreover, was compelled to ask the advice of the Council on several important matters. Among these were questions relating to all instructions and regulations concerning the general or provincial administration, the regulation of the political relations with Indian princes and peoples, the estimates, the appointment of high officials, and, generally, all measures of an important nature.

In some well-defined cases, the consent of the Council is essential and the decisions of the Governor-General must be in accordance with the opinions of the majority of the Council. Should it be otherwise, the final decision is left to the Sovereign. Should the Governor-General believe that any delay would prove dangerous to the peace or safety of Netherlands India, or to other general interests, he may anticipate the Sovereign's decision and act upon his own responsibility.

There is additional evidence to show that the Regulations acknowledge the Governor-General as the only responsible authority in Netherlands India. The Council can put forward propositions, but the Governor-General decides, although it should be noted that in cases where his decision differs from the advice tendered, the fact must be reported



PALACE OF JUSTICE, SOURABAYA.

of affinity arises after the Governor-General has been appointed, he may retain office only with the Sovereign's sanction.

Neither directly nor indirectly may the Governor-General be connected in any manner with any undertaking which has entered into an agreement with the Indian Government for profit or advantage. He may not deal in Government bonds, although he may retain any he possesses, neither must he hold shares, either directly or indirectly, in undertakings connected with trade or navigation in the Dutch East Indies; nor may he be the owner or tenant of landed estate.

The Governor-General, who may not resign office, nor leave Netherlands India without his Sovereign's consent, usually resides at Buitenzorg, a place within one hour's train journey of Batavia. Here is situated the Palace (Landspaleis), while in Batavia itself there is a Government building where the Governor-General attends at least once a month for the purpose of transacting official business, holding receptions, and granting audiences. During the hot weather

of Netherlands India, or the senior member of the Council.

This again emphasises the importance of the Council of India, coupled with the fact that all ordinary and extraordinary legislative power of the Netherlands India Government is executed by the Governor-General in accordance with the Council. The regulations which are thus drawn up by the Governor-General are termed "ordonnances," and were formerly known as "resolutions" and "publications." Together with the laws and royal decrees, they make up the general ordinances; in addition there are instructions issued by the Governor-General, the heads of departments and provincial administration, and police regulations which are carried out by the local councils.

The Council of Netherlands India dates as far back as 1611, when it was composed of four members. The number has undergone frequent change. The President was Director-General of Trade, and the members all held some office. During the period of British occupation, the Council consisted of a Vice-President (who was Commander of

to the Colonial Secretary and reasons given for the course taken. The Governor-General must also inform the Council of the decisions he may have arrived at.

There can be no doubt that the Council has permanently lost the influence it possessed in the days of the Dutch East India Company.

The Governor-General has power to send members of the Council on special missions in India, though the Vice-President and at least two members must remain in the capital. Formerly, the Vice-President was not so restricted.

The Council meets at least once a week on a day chosen by the Governor-General. This is usually Friday, and the sittings are held in the Palace at Weltevreden, in Batavia. The Governor-General has the right to preside, but it is generally the Vice-President who occupies the chair. The Vice-President and members are bound by the same restrictions as those relating to the appointment of the Governor-General, such as age, nationality, and personal interests. They are appointed and dismissed by the Sovereign, and thereby obtain a position which allows them to express their opinions independently of the Governor-General, and even to defend those opinions against their superior. In this way their advice is rendered more valuable and trustworthy than might otherwise be the case.

A reorganisation of the Council on lines similar to that of British India has been suggested from time to time, but has never been adopted, principally for the reason that the independent status of the members would be lost. It is also urged that the directors of departments would obtain a position which would make them independent of the Governor-General, and that this would lead to decentralisation.

It has been stated, on the other hand, that the number of members is at present too limited, and that it would be to the advantage of the Dutch colonies to have men who have done good work in a broader sphere than Netherlands India. This want, to a certain extent, has been satisfied by the sending of a capable Dutch politician to India. In 1898, for example, Mr. Thomas H. de Meester, Administrator of the Treasury, was appointed Vice-President of the Council, a position which he relinquished only in 1904 on his appointment as Premier and Minister of Finance in Holland.

One suggestion put forward is that the Council should be strengthened from time to time by the inclusion of "extraordinary" or special members. In this manner the advice of private individuals, thoroughly conversant with special subjects, would be available, and yet the danger that is feared in some quarters of an enlarged Council limiting the power of the Governor-General by assuming the status of a Parliament would be avoided.

In 1893, an attempt was made by Baron van Deden, who at that time held a portfolio, to increase the Council numerically. His resignation the following year prevented the matter being discussed, however, but in 1895 he visited British India for the express purpose of studying the system followed in that country. Unfortunately, he died, and his work was left unfinished.

Not until January, 1907, was the question revived, and in that month Dr. D. Fock introduced two Bills in the Dutch Chamber. The first was to promote a sound financial administration, decentralising Netherlands India financially so that the Budget should be drawn up by the Indian Government and providing for subsequent approval of the law. It further stipulated that loans could no longer

be raised by law on behalf of Netherlands India, but by virtue of an Indian "ordonnance," approved by law.

The second Bill was to increase the Council of India by four extraordinary members, Dr. Fock being of the opinion that the passing of the Indian Budget could not be guaranteed unless it were openly discussed by non-official authorities. These additional members would be appointed by the Sovereign from outside the service, and would hold office for five years. They would take part in all business concerning loans, together with other matters specified by the Sovereign. The meetings of the Council would be public and those heads of civil departments directly concerned would be present in order to give verbal information. The commanders of the army and navy would also be entitled to attend.

The political situation of the Netherlands has delayed the debate on these Bills. Although the Ministry of which Dr. Fock was a member resigned, the new Colonial Secretary, Mr. A. W. F. Idenburg, has not withdrawn the Bills, so that they may be said to be still under consideration.

As has already been stated, the Governor-General is assisted by a department called the "Algemeene Secrétaire," or General Secretary's Office. The head of this department is the General Secretary, a post at present held by Mr. J. B. van der Houven van Oordt. He is assisted by the Chief Government Secretary and two Government secretaries.

The General Secretary is practically the Governor-General's adviser. He superintends the publication, despatch, registration, and preservation of the directions issued by the Governor-General, deals with all Government correspondence, as well as the contents of the *Official Gazette of Netherlands India*. This latter is a collection of all the most important Government resolutions; the other official matter is published in a supplement to the *Gazette*. The General Secretary supervises the annual "Regeerings-Almanak" (Government Almanac) of Netherlands India. The archives of the General Secretary's office form the best collection dealing with the Dutch East Indies that is known. Those dealing with events prior to 1816 are known as the "old archives" and are in charge of an official whose scientific essays usually appear in the "Review of the Batavian Society of Arts and Societies," the oldest society of its kind in Asia.

The General Secretary receives the same salary as the heads of civil departments, that is to say, £2,000 annually. He is given precedence over them on State and other occasions, however.

In 1855 the post of Director-General of Finance was done away with on the introduction of new Government regulations, and the work placed under the administration of seven heads of departments. Ten years later the number was reduced to six. In 1871 the Department of Justice was established, in 1905 the Department of Agriculture, and, in 1908, the Department of Government Works.

The heads of the various departments are not regarded as responsible ministers, although, if necessary, those in charge of the civil departments may constitute a council of directors to give advice on questions of public moment should the Governor-General deem it necessary.

It has been stated that a Bill is before the Dutch Parliament, having for its object the reorganisation of the Central Government. Should this Bill become law, the heads of the Departments of War and Marine will

also obtain the title of Director and have a seat in the Council. The income of the Commander-in-Chief of the Army is £2,080, while that of the Commander of the Fleet is £1,300, not including his pay as a superior officer of the Dutch Navy. Both are given official residences.

From time to time, it has been suggested that a separate department should be created to deal with the "outposts," or possessions outside Java. This idea has been abandoned, but the Director of Provincial Administration is now assisted by an "Adviser," who looks after the government and administration of those possessions. The post is held at present by Mr. H. Colijn, his salary being between £1,250 and £1,500 annually.

The position in which the departmental chiefs and the heads of provincial government are placed is somewhat peculiar. Although the departmental chiefs are officially above the heads of provincial government, they are not their superiors, as the latter are placed directly under the orders of the Governor-General. The departmental chiefs may send orders or instructions to the governors, but beyond that their actions depend mainly on the amount of tact they display or otherwise.

According to seniority, the departmental chiefs are at present as follows:—

Marine: Vice-Admiral J. G. Smetlage (shortly to be replaced by Rear-Admiral A. H. Hoekwaer).

War: Lieut.-General M. B. Rost van Tonningen.

Agriculture: Dr. M. Treub.

Justice: Dr. A. L. E. Gastmann.

Interior: S. de Graaff.

Finance: J. P. C. Harreveldt.

Government Works: H. J. E. Wenckebach.

Instruction, Public Worship, and Industry: Dr. M. S. Koster.

Public Works: W. B. van Goor.

The following subjects are placed under the different departments:—

JUSTICE.—Judicature; the civil, commercial, and penal legislation; the body of notaries; the interpreters and sworn translators; the inspection of labour and enlisting of coolies; the functionaries for Chinese and Japanese affairs; the orphans' and estate courts; the admission, removal, and extradition of aliens; the examination of regulations drawn up by the chiefs of provincial administration and ordinances of police; the system of imprisonment; joint stock companies; the equivalence of Asiatics with Europeans and naturalisation; slavery and hostages; Press supervision.

INTERIOR.—Provincial and local administration; town militia and other bodies, not directly belonging to the army, as police corps; private agriculture; forced labour; land rent; the inland system of credit (especially agricultural credit); cadastral survey; agrarian affairs; direction of the civil store-houses of the State; means of transport and communication (e.g., the "Kon. Paketvaart Maatschappij" (Royal Packet Company), the Java, China, Japan line and the mail steamers sailing between Europe and the East Indies); passports.

INSTRUCTION, PUBLIC WORSHIP, AND INDUSTRY. European, Native, and Chinese instruction; worship; promotion of the knowledge of language and ethnography of Netherlands India, and the publishing of useful books, arts, and sciences (also archaeology and scientific explorations); civil medical service; institutions of benevolence or public utility; boards of charity; industry (including chambers of commerce and industrial

exhibitions, &c.); system of marking measures and weights.

AGRICULTURE.—Agriculture and rural instruction; the breeding of cattle and horses; civil veterinary service; fishery and the breeding of fish; Government coffee cultures; forestry; botanic garden at Buitenzorg; physiological researches.

CIVIL PUBLIC WORKS.—Buildings, bridges, roads, and irrigation.

GOVERNMENT WORKS.—Railways, tramways and steam-engines, post, telegraph and telephone, post office savings banks, mining (including the tin mines of Banca), salt monopoly, Government printing establishment (which publishes the official newspaper, the *Javasche Courant*).

Chapelle), whose annual salary is £1,500, and six members, who receive £1,200 a year. They are appointed and dismissed by the Sovereign, and must retire on attaining the age limit, which is fixed at sixty-five. The annual report of the Chamber is examined by the States General.

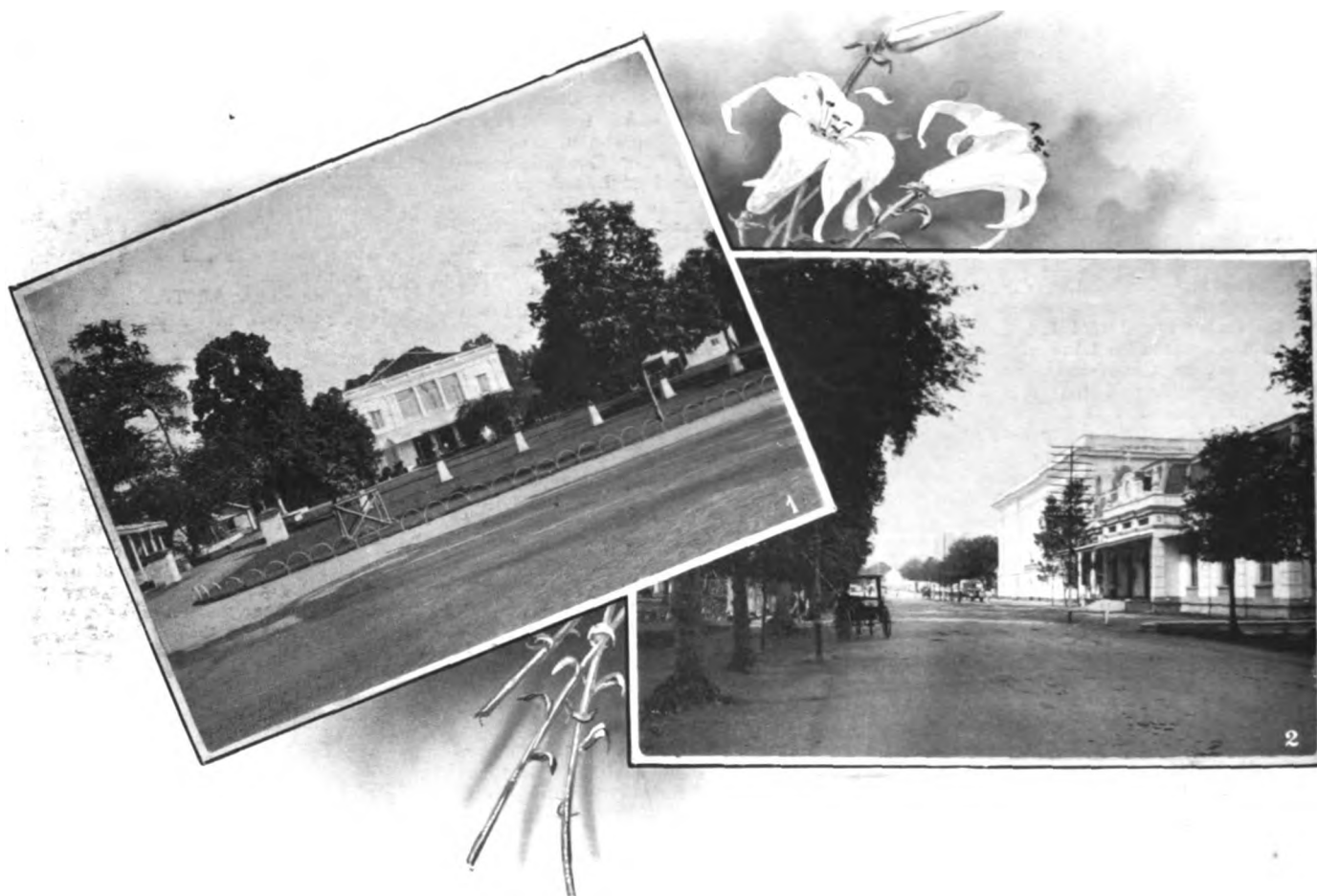
INTERIOR.

Throughout the whole of Netherlands India the system of civil administration is based on one cardinal principle, that is, to leave the native population as much as possible under the direction of their own chiefs. These chiefs are either appointed or acknowledged by the Government, and subjected to the supervision, either in accordance with

Military officers are almost invariably chosen for the post, especially in the provinces beyond Java.

The annual salary of a governor is £1,500; for a resident, £1,250; while the two assistant residents above mentioned receive from £800 to £1,000 each. All are housed at the expense of the State and are also allowed full travelling expenses. In addition, the governors and residents are granted an entertainment allowance, varying from £250 to £750. They are the representatives of the Government, and, in their own provinces, possess full civil and financial authority, as well as police administration. In regions possessing self-government, however, their authority is naturally limited.

Java is divided into seventeen residencies.



1. THE RESIDENCY, SEMARANG.

2. THE RESIDENT'S OFFICES AND COURTS OF JUSTICE, SEMARANG.

FINANCE.—Financial administration, system of taxes, the "lombard" service, the opium "regie," "farming" system, the public sale-houses, passports and annual passes for ships, monetary system, compilation of the report of trade and navigation.

WAR.—Military affairs, the steam tramway in the government of Achin.

MARINE.—The affairs of the navy, also beaconage, pilotage and hydrography, the magnetic and meteorological observations.

The General Chamber of Accounts deals with the moneys and properties of the State. It consists of a president (Mr. H. M. la

special rules laid down by the Governor-General, or with the treaties which have been concluded between the native princes and the State. Consequent upon this underlying idea, only the highest posts are conferred upon Europeans; all the subordinate positions are held by the leading natives, supervised and instructed, of course, by the European officials.

The different provinces into which Netherlands India is divided are governed by governors or residents, according to whether the district is a "gouvernement" or a "residence." Billiton and South New Guinea are in charge of assistant residents.

The following list gives their names, together with the name of each capital and resident:

Bantam (Serang), F. K. Overduyn
Batavia (Batavia), E. Meertens
Preanger Regentschappen (Bandoeng),
W. F. L. Boissevain
Cheribon (Cheribon), G. J. Oudemans
Pekalongan (Pekalongan), W. F. Engelbert van Bevervoorden
Semarang (Semarang), H. C. A. G. de Vogel
Rembang (Rembang), G. L. Gonggrijp
Sourabaya (Sourabaya), J. Einthoven
Madura (Pamekasari), F. Fokkens
Besoekei (Bondowoso), J. Bosman
Banjoemas (Banjoemas), H. G. Heyting

Kedu (Magelang). P. Wijers
Soerakarta (Soerakarta). G. F. van Wijk
Djocjakarta (Djocjakarta). P. H. van Andel
Madioen (Madioen). J. Hofland
Kediri (Kediri). O. E. V. Hermans

The possessions outside Java (Buiten-bezittingen) include twenty provinces.

(1) In Sumatra—two governments :

Atjeh (Koeta Radja Achin); Governor,
Lieut.-Colonel H. N. A. Swart
Sumatra's West Coast (Padang); Governor,
F. A. Heckler ;

and the following eight residencies : —

Tapanoeli (Si Bolga). C. J. Westenberg
Sumatra's East Coast (Medan). J. Ballot
Djambi (Djambi). A. J. N. Engelenberg
Palembang (Palembang). F. L. K. Storm
van 's Gravensande
Lampung District (Telok Betong). J. R.
Stuurman

Bencoolen (Bencoolen). C. van de Velde
Riouw (Tandjong Pinang). W. J. Rahder
Banca (Muntok). W. J. Coenen

The Government of Sumatra's West Coast is divided into two residencies, the Padangsche Benedenlanden (Padang Lowlands), directed by the Governor himself ; and the

Padangsche Bovenlanden (Padang High-lands) (capital, Fort de Kock), directed by the Acting Resident, E. J. Gerrits

The island of Billiton is an Assistant Residency (capital, Tandjong Pandan); Assistant Resident, Ph. J. van Marle.

(2) In Borneo—

The Western Division of Borneo (Pontianak), Th. J. H. van Driessche
Southern and Eastern Division of Borneo (Bandjermasin), J. van Weert

(3) In Celebes—

The Government of Celebes (Macassar); Governor, A. J. Baron Quarles de Quarles

The Residency of Menado (Menado), J. van Hengel

(4) In the Moluccas—

Ternate (Ternate), K. H. F. Roos
Amboina (Amboina), G. Sieburgh
Timor (Koepang), E. F. J. Loriaux

(5) Bali and Lombok—

(Singaradja), G. F. de Bruyn Kops

(6) The Assistant Residency of Southern New Guinea (Marauke)—

Assistant Resident, R. L. A. Hellwig

The heads of provincial governments are appointed by the Governor-General. They are ranked (unless they already possess a military rank) as follows :—

Governor ranks with major-general

Resident ranks with colonel

Assistant Resident ranks with lieutenant-colonel

They may issue regulations and police orders, and have power to deal with any offender against these orders, except in one or two instances which will be explained in the course of this article. Any regulations they may draw up, however, may not be published until the Administrator of Justice has been consulted. If necessary, they must also be published in the native and Chinese languages.

These officials have no power to interfere with religious matters, except in the interest of public order. Their most important duty, and that of their subordinates, too, is to look after the welfare of the natives, who may benefit largely by their proposals and decisions.

The local government in these provinces, which, owing either to their importance or the large extent of territory they comprise, are divided into sections, is carried out as follows :—

In Java and Madura by assistant residents. In the "outposts" by assistant residents, controllers of the civil government, administrators (at the Banca tin mines, for example), civil surveyors, and "post-holders" or post-holders. In the Padang Highlands there is a resident.

The assistant residents are chosen from the ranks of the controllers, and these latter from the assistant controllers. An assistant controllership is the first rung on the Indian Civil Service ladder, and is granted to men who have passed through a course of practical instruction, during which time they are known as "officers at disposal." An assistant commences with a salary of £200, rising to £225; a controller rises from £300 to £500; and an assistant resident from £650 to £900. All are granted either a house or the equivalent in money.

With regard to inland administration, a difference is made between the provinces governed directly by the Government and those where native self-government exists; also between Java and the "outposts." In

able, diligent, honest, and loyal. His yearly allowance is £1,200.

A regent may be known by certain distinctive marks in his dress or following, such as the sunshade or "pajoeng." The position occupied by a regent may be compared to that of a younger brother, with the resident as the elder brother. He must, however, obey the resident's orders. He has no legislative authority, but is regarded as the chief of the Mahomedan religion in his district.

The regent is assisted by "patih," who convey his instructions to the minor chiefs, and who receive salaries ranging from £325 to £475. The patih of the residency of Batavia, however, who are not placed under the superintendence of a regent, and who live in the capital, receive from £500 to £600, together with free lodging. The chief of a district receives £200 a year and a house, while an under-chief ranges from £100 to £145.

The sub-districts are made up of a number of communities or "desahs," each desah being



THE RESIDENCY, SOURABAYA.

Java, self-government exists only in the native states of Soerakarta and Djocjakarta. With the exception of these two states and part of the residency of Batavia, the provinces in Java and Madura are divided into regencies. Governing these regencies are natives of standing who are called regents. Their official title is either "Adipati" or "Toemeng-goeng," ranks which may be compared with lieutenant-colonel and major. Some regents have been granted the title of Pangeran or prince, as a reward for services rendered the state.

These officials may be said to form the chain which links the European and the native Governments. They exercise direct authority over the native population in their respective regencies, are in charge of the police, direct the "culture" work, and are responsible for the carrying out of all obligations the natives may have towards the Government or among themselves. They are appointed by the Governor-General, and, whenever possible, one of the sons or a near relative of the last regent is selected. The candidate must naturally prove himself

governed by a chief. The chief is usually chosen by the people on the understanding that the approval of the resident is necessary. Each chief has a substitute, and is assisted by various officials and the village priest. These may be said to constitute the government of the desah. He receives no regular salary, but is granted 8 per cent. of the taxes he collects, together with the produce of certain fields allotted to him, and known as "loerah" or "békél."

In the protected states in Java the native government is regulated and supervised by the self-governing states. There also we find the division into regencies. Soerakarta is governed by a soosoochooman, Djocjakarta by a sultan. Each of these states is governed by an independent prince owning extensive possessions. In Soerakarta, the ruler is Prince Mangkoe Negoro; in Djocjakarta, Prince Pakoe Alam. In both states a governor, appointed by the Governor-General, acts as mediator between the resident and the native prince, being paid £1,000 a year.

The native princes receive liberal indemnities for the loss of their former income. In

Soerakarta it amounts to as much as £73,278 annually, and in Djocjakarta to £39,305.

In the outposts the native government in those districts possessing direct government has been fixed separately for each province, owing to the widely divergent conditions which exist. The native self-governing states are numerous, and the chiefs often bear the title of sultan or rajah. The attitude of the Dutch Government to all native self-governing states is based on an agreement which, in some instances, enters into the smallest details; in other cases, it is nothing more than a brief declaration giving the Government full right to step in whenever necessary and remedy any defects in government. The general regulations, in so far as these native self-governing states are concerned, are only applicable if compatible with the right of self-government.

The establishment of district banks is an important feature of the last few years in these states. Their main object is to safeguard the revenue so that it may be devoted to the betterment of the country and not become the property of the self-governing prince. The general idea of this system is

There is also a local council for the "culture" work in the Sumatra (East Coast) Residency. This is the region where the tobacco industry has already resulted in improved conditions. In addition to these local councils, fifteen provincial councils have been established in those districts in Java where direct government prevails.

A portion of the general revenue has been placed at the disposal of the local councils. Among the privileges possessed by these bodies, they may increase the taxation in the districts covered by their authority; and in this way the town council of Bandoeng recently decided to place an additional 20 per cent. on the personal tax. The regulations concerning taxation do not become valid, however, until they have received the consent of the Governor-General. All the councils possess the necessary powers to draft police regulations for their respective districts, but not before the Director of Justice has been consulted. Local regulations must also receive the consent of the Director before coming into force.

The councils must see to the upkeep of roads and other public works, street-lighting,

Governor-General. Civil officials must be members, but they may ask to be relieved of the duty if they can show the Governor-General sufficient reason. The European members of the local councils in the residency of Batavia were recently elected by a new regulation which, in future, will apply to the election of the European members of all local councils. Non-European members may also be elected according to the new regulation, which may also be applied to provincial councils. Foreigners, unless born of parents living in Netherlands India, can acquire the rights of election and electing only after five years' residence in the colony. This limitation does not apply, of course, to civil servants and military officers.

For the rest, male Europeans are entitled to vote, subject to certain rules. They must be twenty-three years of age; have had their residence in the territory of the council for three months previous to the election; have been rated to pay personal taxes or income tax during the last expired financial year, and have paid those taxes within the legal period. A male European cannot have the vote if he is under guardianship, bankrupt, or imprisoned for debt.

The members of the councils are elected for a period of six years; every three years one half of the council resigns. The meetings are public. Neither the president nor the members can be prosecuted for any statements they may make in the meetings of the council, or communicated to the council by letter. The dissolution of a council is not permitted; should it be necessary, an "ordonnance" must be issued to that effect. The presidency of each provincial council is conferred upon the Resident of the district; that of the local councils upon the Assistant Residents. Power has recently been granted to the local councils to enable them to appoint sub-committees to deal with the administration of certain branches of the service or of certain institutions; so far, advantage has not been taken of this privilege.

The Asiatics—Chinese, Arabs, and Moors—of which there are great numbers, are placed in separate wards according to Government regulations. These wards are administered by chiefs appointed by the Government from the various races. Such chiefs are quite independent of the native authorities, but are directly responsible to the European Government for the maintenance of order in their separate wards. The Chinese officials are granted the rank of captain or lieutenant, according to the size of the ward they administer; in Batavia, Semarang, and Sourabaya they are ranked as majors. With the other races, the title is simply "kapala" (head). In each of the three towns just mentioned there is a Chinese council composed of the leading Chinese in the place.

ADMINISTRATION OF JUSTICE.

Wherever the native population has not been left in possession of their own laws, the law in Netherlands India is administered in the name of the Sovereign. It is closely connected with the division of the populace into the four following categories:—

- 1.—Europeans.
- 2.—Those ranked as equal with Europeans. To this category belong all Christians, Japanese, and all persons who cannot be placed in the fourth category.
- 3.—Natives.
- 4.—All who are considered as equal with natives, including Arabians, Moors, Chinese, Mahomedans, Pagans, and those who are not included in the second category.



THE RESIDENCY, MEDAN (DELI).

that the moneys collected in a certain district should be spent locally.

PROVINCIAL AND LOCAL SELF-GOVERNMENT.

The policy of decentralisation has recently brought about other important measures. A law of 1908 added some articles to the Government regulations by which certain provinces or parts of provinces were granted the option of self-government. The Government Commissioner deputed to deal with this matter is Mr. D. Tollenaar. His salary is £1,400.

There are now sixteen local councils, the first having been established on April 1, 1905. They are to be found in the following places:—

Java—Batavia, Meester Cornelis, Buitenzorg, Bandoeng, Cheribon, Tegal, Pekalongan, Semarang, Magelang, Kediri, Blitar, and Sourabaya.

Outposts — Padang, Palembang, and Medan (Sumatra), and Macassar (Celebes).

fire brigade, burial places, water-works, and ferries. The state makes grants towards any specially expensive works, and loans may be contracted or guaranteed only when sanctioned by the higher authorities. A loan has already been approved for the building of a Government abattoir at Macassar, and the purchase of some land in the vicinity of Batavia and Sourabaya for the betterment of the housing conditions.

Natives and Asiatics are admitted to the local councils. The council at Batavia has 25 members, 17 of whom are Europeans. In other places, the members comprising the Council vary from 11 to 23 in number. In the provincial councils, the number of members ranges from 17 to 39, with the proviso that there must always be a majority of at least one of members who are civil officials and who take their seats on the council by virtue of their office, such as the Assistant Residents and the Regents. This proviso formerly applied to the local councils also, but has been abandoned.

When the local councils were instituted, all the members were appointed by the

The native Christians are subject to the authority of the native chiefs, and so far as rights, duties, and obligations are concerned must obey the same laws as the natives who are not Christians.

The Governor-General—with the consent of the Council of India—may make exceptions to the above categories, and in this way many educated natives and Chinese have acquired the right of being considered equal to Europeans.

It is the general rule that all regulations mentioning Europeans and natives, apply to their equals unless the contrary is expressly stated. In the administration of justice, the following general principles, which are categorically set out in the Government Regulations, apply:—

1.—With regard to Europeans, the administration of justice in civil and commercial affairs is based on the general regulations, as much as possible, in accordance with the laws of the Netherlands.

2.—The Governor-General, with the consent of the Council of India, may declare any of the stipulations of these regulations which he thinks fit as applicable to the whole or a part of the native population.

3.—Save in those cases where such a declaration is issued, or where natives have subjected themselves voluntarily to the civil and commercial laws established for Europeans, the native judge applies the religious laws, institutions, and customs of the natives, in so far as they are not contrary to the generally acknowledged principles of equity and justice.

4.—According to these native laws, institutions, and customs, and with the same reserve, a European magistrate passes sentence in matters concerning the native chiefs which are submitted to his jurisdiction, taking cognizance of appeal in civil and commercial affairs against decisions of the native judge.

5.—All intervention of the Government in matters concerning the administration of justice is prohibited, except in very special circumstances.

This last principle, which is really the foundation of the true administration of justice, is strictly maintained. The four preceding principles have undergone important alterations, notably in 1906. In December of that year, a Bill was passed dealing with the subject, but so far it has not come into force, as it has to be coupled with a general revision of the judicial legislation of Netherlands India. The preparation of this scheme has been submitted to a special committee.

For the sake of completeness, however, space may be found to enumerate these new principles:—

The population will be divided into three categories instead of four, *i.e.*, Europeans, natives, foreign Asiatics.

The people who will be subject to the stipulations concerning Europeans are—

- 1.—All Dutchmen;
- 2.—All other Europeans;
- 3.—All Japanese, together with all foreigners who would, in their own country, be subject to a form of justice resting mainly upon the same principles as the Dutch;
- 4.—The legal and legally acknowledged children and descendants of the persons included in sections 1 and 2, if born in Netherlands India.

Those who will be subject to the stipulations concerning natives (but not the native

Christians, whose position will be regulated by general ordinances), include the native population of the colony, excepting those individuals who have been transferred to another group of the population, and those who, having formerly been classified apart, have now been included with the natives.

The third category, comprising the foreign Asiatics (Christians again excepted), includes all who do not come under either of the two preceding heads.

Every individual may ask the judge to which category he belongs, according to rules fixed by the General Regulations.

The persons who were regarded by former legislation as equal to Europeans, will be subject to the stipulations for Europeans where not included among the native populations.

The civil, commercial, and penal justice, together with the civil lawsuits, are regulated by general ordinances. In these ordinances, the laws of the Netherlands, duly modified to suit the special conditions existing in Netherlands India, are followed in regard to Europeans. In so far as the natives, the

(a) The Resident Courts of Justice consisting of one judge only, who lives in the capital of every district governed by a Resident or an Assistant Resident. The judicial Presidents of the Provincial Councils now act in this capacity. They are each assisted by a Recorder, while a Public Prosecutor is attached, but does not, as a rule, receive any salary. In civil lawsuits, these judges deal with all cases where the value does not exceed Fl. 500, together with other claims against Europeans; in penal affairs they deal with all cases arising out of breaches of the law by Europeans for which the penalty does not exceed imprisonment for three months and a fine of Fl. 500.

(b) The Councils of Justice at Batavia, Semarang, and Sourabaya—the jurisdictions of which extend over West, Mid, and East Java, and some of the outlying possessions also. These constitute the daily tribunals of the Europeans and those inhabitants classed as such. They are composed of a President, with an annual salary of £1,400, a Vice-President, five or six members, a Public



TOWN OFFICES, BANDJERMASIN, BORNEO.

foreign Asiatics, and the sub-divisions of these two groups of the population are concerned, only those European stipulations which deal with the social necessities of the people are applied. For the rest, the legal regulations connected with their religions and customs are applied. The right of natives to submit themselves voluntarily to the European form of justice, either in general or in any special case, is regulated by general ordinance. The general ordinances which are based on this principle are applicable only in those portions of Netherlands India where the native population is permitted to retain its own administration of justice.

As has been stated, this new legislation is not in force at the time of writing, so that the administration of justice is still based upon the legislation inaugurated on May 1, 1848. The principles are roughly as follows:

The administration of justice to Europeans in Java and Madura (in the regions where direct government is maintained) is conferred upon:

Prosecutor—who has one or two assistants—and a Recorder, who has also some assistants. All these are European lawyers. They examine, in the first instance, all civil and penal cases which do not come within the jurisdiction of the Resident Courts or the High Court of Justice. They deal also with those civil suits which, by way of prorogation, are laid before them. They judge appeals on sentences of the provincial councils and the residuary courts, as far as appeal is permitted. Further, they examine, without distinction of nationality of the parties, all disputes with regard to prizes and captures, all flotsam and derelicts, the crime of piracy, all crimes committed with regard to prizes and captures, all transgressions of the legal stipulations on the subject of slave trade, as well as of collisions at sea and delicts of the press. All sentences of condemnation on account of crime, passed by the provincial councils, are under obligation of revision by the Councils of Justice.

(c) The High Court of Justice of Netherlands India is the highest judicial body

in the colony. It is established at Batavia, and is composed of European lawyers exclusively. There is a President, a Vice-President, eight members (counsellors), an Attorney-General and his substitute, the Solicitor-General, a Recorder, and two Assistant Recorders.

The President, whose annual salary amounts to £2,000, is appointed by the monarch; the others by the Governor-General. The salaries

justice in the whole of Netherlands India; the distribution must take place properly and without delay. Appeal to the High Court of Justice at The Hague, which was formerly permitted in some cases, has been abolished since 1901. The competence of the High Court with regard to legal proceedings, to which also belong revision and cassation, is regulated minutely. The President to-day is Dr. W. C. Berkhout; Vice-President, Dr.

situated in every district and consisting of the chief of the district, who is the judge. He is assisted by some minor native chiefs as counsellors. They examine (with appeal to the Court of Regency) the civil lawsuits against natives to a maximum of Fl. 20, and (without appeal) the transgressions of those people against legal regulations (save in affairs of rent and taxes), the penalty of which is only a fine of Fl. 3 at the most.

(2) **THE COURTS OF THE REGENCIES**, consisting of the Regent or Patih, who is the judge, and is assisted by some minor native chiefs as counsellors, a pengulu or native adviser and a djaksa (public prosecutor). They examine in first instance—and with right of appeal to the Provincial Council—all civil lawsuits against natives, the subject of which has a value of Fl. 20 to Fl. 50, and a number of trifling transgressions, the penalty for which is not more than a fine of Fl. 10, or detention of one to six days.

(3) **THE POLICE JUDGE**.—Either the Resident or his legal substitute—the Assistant Resident or a Controller who is on the "police roll"—officials as Police Judge. The cases dealt with by this official are those in which natives or their equals only are concerned, and which cannot be heard by the courts of the district or of the Regency. The penalty cannot exceed a fine of Fl. 100, or eight days' imprisonment, or three months' hard labour on the public works for board but no wages. The sentences of these Police Judges are not subject to any form of appeal.

(4) **THE PROVINCIAL COUNCILS**.—These constitute the daily judges of the natives and their equals. The councils are established in all the capitals of the provinces and divisions. All are presided over by European lawyers, sometimes assisted by a vice-president, who must also be a lawyer. They further consist of two or more distinguished native chiefs—appointed by the Governor-General—a recorder, a pengulu as native adviser for Mahomedans, one or two chiefs as advisers for the natives, and a chief djaksa, djaksa, and assistant djaksa, who conduct the public prosecutions. Since 1901, they have also dealt with serious crimes, the hearing of which was formerly undertaken by the circuit courts.

Appeal to the Councils of Justice is allowed on sentences passed by provincial councils, but only in specified instances. The Councils of Justice also examine in revision sentences passed by provincial councils on criminal cases.

(5) **THE COUNCILS OF PRIESTS**.—These are established close to every provincial council and give judgment in all disputes between natives arising out of matrimonial affairs, divisions of successions, and such like. They are composed of the pengulu of the Provincial Council and from three to eight Mahomedan priests, as members, who are appointed by the Governor-General.

In the Protected States in Java and Madura, the administration of justice has been carried out more on European lines since 1903 than was the case previously. The same may be said of the other possessions beyond Java, and more particularly of those regions where the population is under the direct administration of the Dutch. In connection with this new movement, Councils of Justice have been established at Padang and Medan (Sumatra), and Macassar (Celebes), while a number of provincial councils are to be found also. As far as possible the Dutch Government makes its influence felt in the people's own administration of justice, as, for instance, by granting pardons, indicating a place of execution, and conferring the



HIS EXCELLENCY A. W. F. IDENBURG, GOVERNOR-GENERAL ELECT.

of the Vice-President, the Counsellors, and the Attorney-General amount respectively to £1,500, £1,400, and £1,066. Like the other graduated judicial officers they resign on reaching the age of sixty-five. Being the highest judicial body, the High Court is charged with the care of the distribution of

J. Reepmaker, and Attorney-General, Dr. B. H. P. van der Zwaan.

The judgment of natives and those who are considered their equals in Java and Madura, in the regions under direct Dutch Government, is conferred upon:

(1) **THE DISTRICTS COURTS OF JUSTICE**,

direction of the tribunals upon European civil servants. In some districts it has succeeded in introducing milder systems of punishment.

H.E. THE GOVERNOR-GENERAL.—H.E. the Governor-General of Netherlands India, Joannes Benedictus van Heutsz, Lieutenant-General, Knight Commander of the Grand Cross of the Military Order of William, Knight Commander of the Order of the Dutch Lion, has crowned a long and brilliant military career with five years' successful service in the highest Colonial administrative position which it is possible for any subject of Her Majesty Queen Wilhelmina to obtain.

His Excellency entered the army as a volunteer at Kampen (Holland) in 1867, when only sixteen years of age, and was appointed second lieutenant in 1872. The life of a Dutch garrison town, however, was too monotonous for his restless ambition, and, in the following year, as there was a chance of fighting in the East, he applied for and obtained a transfer to the Indian Army. Thus he gained his opportunity; his subsequent record shows how well he turned it to account. He served with distinction in the second Achin expedition, and was rewarded with the cross of the fourth class of the Military Order of William. In 1876 he was promoted first lieutenant, and was given the Achin medal 1873-76, together with a special decoration for important services in the field. The period 1877 to 1880 was passed peacefully in garrison at Sourabaya, but January, 1880, saw him once more at Achin, this time with the rank of adjutant. The following year he passed the examination for the Military Higher School, but was told he could not join that school in Holland as there was at that time no vacancy for an infantry officer. So small a difficulty, however, could not hold in check a man of the indomitable energy that Van Heutsz had proved himself to be. He went to Europe at his own expense, and persuaded the authorities to enrol him in the Academy. Returning to Netherlands India in 1884, he was appointed to a garrison in Deli, Sumatra, and in the beginning of 1886 was promoted captain. After serving for six months—January till July—with the cavalry, and another six months—July to December—with the artillery, he was appointed to the Head Office of the General Staff, and, in September, 1887, was transferred to Sourabaya as Chief of Staff there. In 1889 he was once more engaged on active service—as Chief of the General Staff at Achin—and again he greatly distinguished himself in the fighting line. He was wounded in the left arm and in the lung, but this did not prevent his staying at the front. He was acting then with the third battalion, which had its banner decorated with the Military Order of William on account of its fine conduct in the field, and at the conclusion of the action Captain Van Heutsz himself was presented with a sword of honour inscribed "King William III. For Valour." In June, 1890, he served in the Edi expedition under General Van Teijn, and was recommended for special promotion on account of his able leadership of a column of mixed troops. This promotion, however, did not come until October, 1891, when he was appointed major, "for distinguished services in Acheen and Dependencies." From 1891 to 1893, Major Van Heutsz was stationed at Meester Cornelis, and while there wrote his well-known work on "The Subjugation of Acheen." In July, 1893, he returned to Holland, and

expressed a wish to retire, but the Colonial Office desired to retain his services, and in July, 1894, when still on leave, he was promoted lieutenant-colonel. Returning from furlough in 1895, he was appointed Military Commander of the East Coast of Sumatra. Early in 1896, To koe Oemar rebelled, and the state of affairs in Achin became very serious. Lieut.-Colonel Van Heutsz was ordered to the front, and upon the instructions of the Governor-General was appointed commander of a column. Again his work was brilliantly successful. At 1 p.m. he placed himself at the head of his column, and before sunset Lamsuet and Senelop, which were surrounded by the well-armed rebels, were both relieved and the enemy routed, the Dutch troops charging with the bayonet. Another fortress, Anagaloeng—was succoured, and everywhere Van Heutsz's gallantry and capable leadership brought victory. The word "impossible" seemed not to be in his vocabulary; when the naval authorities declared that troops could not be landed at a certain point owing to the surf, Van Heutsz himself arranged and carried through the manoeuvre, and this action may be taken as characteristic of the man. On December 28, Lieut.-Colonel Van Heutsz was placed at the disposal of Colonel Van Vliet, the Governor of Achin. In 1897, he was created a Knight of the Third Class of the Order of William, and during the same year was promoted colonel, special mention being made of his services at the actions of Pekan-Baroe and Pekan Sot.

The next year, Colonel Van Heutsz was appointed successor of Colonel Van Vliet, and whilst Governor of Achin, he certainly had ample scope for his military talents. Dauntless, strenuous, ambitious, a good tactician, and endowed with the greatest confidence in himself, he imparted some of his enthusiasm to his subordinates, and succeeded for the time being in quelling the turbulent people of that district. Had he remained in this post, there is little doubt that the Achin war would by now have been a thing of the past. Honours were showered thickly upon him. In 1898 he was promoted major-general, and in 1899 was made a Commander of the Order of William and Knight of the Order of the Dutch Lion; in 1902 he was appointed Adjutant on Special Service and Adjutant-General to Her Majesty the Queen with the rank of Grand Officer of the Crown, and the following year he was decorated Knight Grand Cross of the Order of William.

Since his accession to his present post in 1904, His Excellency has done his utmost to establish the authority of the Netherlands Indian Government more firmly in the islands outside of Java and Madura, in Sumatra, Borneo, the Celebes, the Moluccas, and the lesser Sunda Islands. Thanks to his energetic measures, law and order are now maintained in all these places. Much has also been done to simplify the method of government, and to do away with unnecessary formalities. During the past few years, the system of taxation has been altered and a great advance made towards placing the colonial finances on a sounder basis; municipalities have been organised, the telegraphic tariff cheapened, the price of gas reduced, a system of commercial book-keeping introduced in various Government departments, and several other minor reforms effected, while a large scheme for the extension of public instruction for the native population is being carried out at the present time. The Government has also taken over the regulation of the pawnshops (which were formerly farmed out

to Chinamen), the local telephone services, and a section of a private railway. In 1907, in recognition of his many and able services, His Excellency was created a Commander of the Order of the Dutch Lion.

H.E. THE GOVERNOR-GENERAL ELECT.—His Excellency Alexander Willem Frederik Idenburg, who was appointed by Letters Patent on August 20, 1900, to fill the high position of Governor-General of Netherlands India, and who will assume office in December, has had a most distinguished career. Born at Rotterdam on July 23, 1861, he held the office of Colonial Secretary at The Hague from September 25, 1902, to August 17, 1905, on which latter date he was appointed Governor of Surinam (Dutch Guiana). This post he held till May 20, 1908, when he resumed office as Colonial Secretary, resigning the Secretarial portfolio on August 16, 1909. It will thus be seen that he enters upon his responsible duties with the advantage of considerable experience of his country's colonial administration.

COUNCIL OF NETHERLANDS INDIA.

D. F. W. VAN REES, the Vice-President of the Council of Netherlands India, is the son of Mr. O. van Rees, a former Governor-General of Netherlands India. Born at Sourabaya on March 11, 1893, he was educated at Delft University, Holland, with the view subsequently of entering the Dutch Colonial Service. Returning to Java in October, 1882, he obtained a position under the Department of the Interior, in the Residency of Semarang, but the month following he was appointed Assistant Controller at Buitenzorg. Some five years later, he was transferred from the Department of the Interior to that of the General Secretary, and, having served for some time as chief clerk, was appointed head of the department in May, 1891. His promotion to be an acting official of the Second Class was announced in 1895, and confirmed in May, 1896. Returning from leave in Europe in 1897, he was appointed a Commissioner for the Government to inquire into certain matters concerning the "agrarische wetgeving," and the following year he was gazetted as an acting official of the first class. From this time onward, Mr. Van Rees has occupied many important administrative positions. In March, 1903, he was appointed Director of the Department of the Interior, and in April, 1905, General Secretary to the Governor-General. In the autumn of 1905, he joined the department of the Minister for the Colonies in Holland, but returning to Java the following year he once more resumed his old duties. He was elected a member of the Council of Netherlands India in December, 1907, and was appointed Vice-President of the Council in April, 1908. Mr. Van Rees has served on numerous commissions, and has been the recipient of many honours and decorations. He is an officer of the Order of Orange-Nassau, a Knight of the Order of the Dutch Lion, and a Knight of the Second Class of the Order of the Imperial Eagle of Prussia.

C. H. NIEUWENHUIS, who has been a member of the Council of Netherlands India for the past six years, was born at Sourabaya in 1851, and is a son of a former Government Resident. At an early age he went to Holland for his education, and, in course of time, was entered as a student of Leyden University. Here he studied law, and, having graduated with a doctor's degree, he returned once more

to Netherlands India, and entered the Civil Service in February, 1877. He was appointed to the Department of Justice, and became attached first to a Native Court and subsequently to a Court for Europeans. He then became a member, and, in due course, Vice-President of the High Court, and it was while serving in this capacity that he was decorated by the Government with the Order of the Nederlandsche Leeuw. Mr. Nieuwenhuys' election to the Council of India dates from 1903, and he has taken a regular share in the responsible work of the legislative body since that time. Indeed, with the exception of two years' leave of absence, Mr. Nieuwenhuys has been actively at work in one appointment or another during the whole of his thirty-two years' service.

F. A. LIEFRINCK has been serving the Government in Netherlands India for a period of more than thirty-five years. Born and educated in Holland, he left home to take up an appointment in the Colonial Civil Service

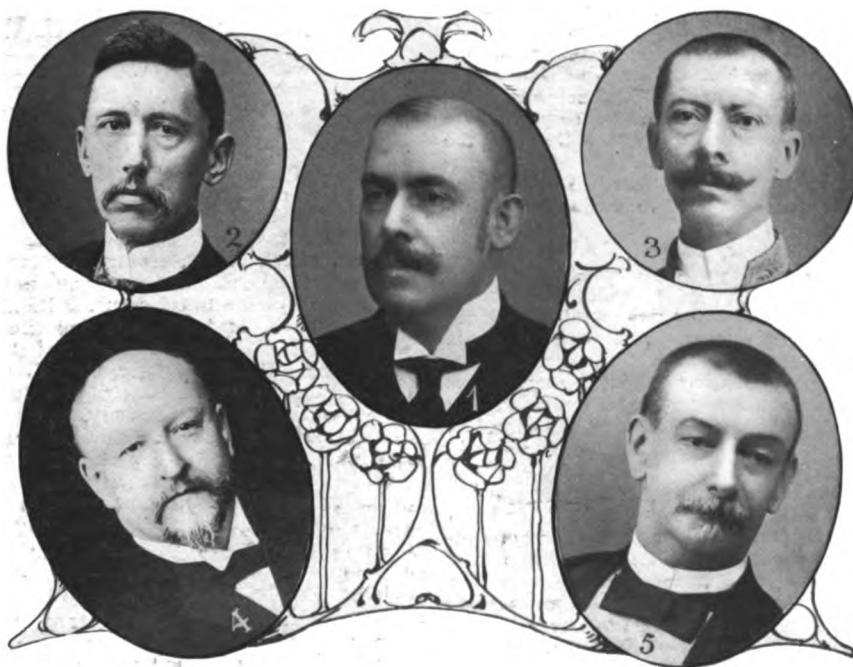
J. G. POTT has a record of about twenty-five years' service in Netherlands India. Born in Amsterdam in 1857, he was educated in his native city, graduating as a doctor of laws in 1881. Two years later, he passed the Colonial Civil Service examination, and was appointed a junior of the Native Court at Buitenzorg. He was associated at different periods with various district courts, but, in 1886, he entered the Department of Justice at Batavia, and, within three years, had become head of a division of the department. He was for some time chief magistrate of the Native Courts for Salatiga and Ambarawa, and later was promoted to the Court for Europeans at Semarang. Returning from leave of absence in Europe in 1896, Mr. Pott was appointed President of the Native Court for Meester Cornelis and Tangarang. In 1899 he was engaged in drawing up new mining regulations, and, this task completed, he became Director of the Department for Education, Public Worship, and Industry. This important administrative position he held until

Germany, taking his doctor's degree in both countries. He joined the Indian Colonial Service in 1879, his first appointment being that of Clerk to the Native Court at Palembang. In 1882 he was transferred to Macassar as a member of the Court of Justice, and six years later he came to Java as President of the Native Court at Bleura. For a short while also, Mr. Gastmann was a member of the Court of Justice at Batavia, but upon returning from leave, he was appointed President of the Native Court at Tegal. In 1893 his position was that of Public Prosecutor at Sourabaya; from Sourabaya he once more went to Batavia to carry out, on this occasion, the duties of Registrar to the High Court; in 1898 he was promoted President of the Court of Justice. Returning in 1905 from his second leave of absence, Mr. Gastmann became Public Prosecutor at the High Court, and the following year was promoted Director of Justice in Netherlands India. He was chosen, by Her Majesty, Queen Wilhelmina, to be President of the High Courts in 1909.

DR. M. S. KOSTER is a lawyer who has climbed with rapidity to the high administrative position he now holds as Director of the Government Department of Public Instruction, Worship, and Industry. Born on April 3, 1867, at Utrecht, he was educated at Utrecht University, where he studied law and political science. His academic career was entirely successful, as in each branch of learning he graduated with a doctor's degree. He practised as a lawyer in Utrecht for eighteen months, and entered the Netherlands Indian Judicial Service by means of the usual competitive examination in 1892. He was engaged for three years in the Department of Justice, and, for five years following, carried out the duties of magistrate in various districts. In 1900 he was appointed a teacher of law in the school for native officials at Bandoeng, a position he retained until his return to Holland in 1903. Dr. Koster's stay in the Mother Country extended over a period of two and a half years, but during a portion of this time he was employed at the Colonial Office. He returned to Netherlands India at the end of 1905, and was attached to the office of the Colonial Secretary at Buitenzorg. In 1907 he was promoted assistant Colonial Secretary, and in this capacity he was attached to the Commission which accompanied His Excellency the Governor-General to Achin towards the latter end of that year. It was in May, 1908, that he first assumed the responsibilities he is so ably discharging at the present time.

W. B. VAN GOOR, who has held the position of Director of the Public Works Department since 1907, was born in Holland in 1856, and educated at the Technical High School at Delft. Here he secured his diploma as a civil engineer, and, passing the entrance examination for the Dutch Colonial Service, came to Java in 1879. His first appointment was as an assistant engineer in the Public Works Department, and during the whole of the past thirty years he has been engaged in engineering work, chiefly for purposes of irrigation, in different parts of the island.

S. DE GRAAF, the Director of the Department of the Interior, was born at Lisse. After completing his educational course in Holland he passed the entrance examination for the Colonial Civil Service, and, coming to Java in 1883, was attached, as an "aspirant controleur," to that department of which he is



MEMBERS OF COUNCIL.

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| 1. D. F. W. VAN REES,
Vice-President. | 3. C. H. NIEUWENHUYSEN. |
| 2. F. A. LIEFRINCK. | 4. J. G. POTT. |
| | 5. R. H. EBBINK. |

in 1873, and, during the intervening space, he has visited the Mother Country but twice on furlough. For seven years, he was Inspector for Cultivations, and while he held this office new land revenue laws were brought into force in one district of Java which have since served as a model for the system of land administration that has now been adopted for the whole island. In course of time, Mr. Liefrinck was appointed controller at Bali, Achin, and various other places in the Indies, and subsequently became Resident of Bali and Lombok. He was elected to the Council of Netherlands India upon returning from leave of absence in 1904, and, while still carrying out the duties attaching to this position, he was appointed to serve as a special commissioner with an expedition to Bali. Last year he acted in a similar capacity with an expedition to Achin. Mr. Liefrinck is the author of several publications dealing with the manners and customs of the natives of Bali and Lombok.

April, 1908, when he was elected to the Council of Netherlands India. In recognition of his valuable public service, Mr. Pott has been decorated by the Government with the Order of the Nederlandsche Leeuw.

R. H. EBBINK, who was elected a member of the Council of Netherlands India in 1908, was born in Holland in 1857. Entering the Colonial Civil Service at the age of twenty years, he became, subsequently, Controller in the Bantam, Rembang, and Japara districts, at Buitenzorg, and, later on, Assistant Resident at Soerakarta. Returning from a holiday in Europe, he held the position of Assistant Resident in several places until 1905, in which year he was promoted Resident at Sourabaya. This appointment he retained until his election to the Council.

A. L. E. GASTMANN, the President of the High Courts, was born in Netherlands India in 1854. He studied law in Holland and

now the head. In the course of time he became a "controleur" and an Assistant Resident. He has held a number of important offices at different periods, and was for several years Inspector of Agrarian Affairs.

DR. MELCHIOR TREUB, the Director of the Department for Agriculture, took his degree as Doctor of Science at Leyden University in November, 1873. He remained as an assistant in the Botanical Institute of the University until 1880, when he was appointed Director of the Government Botanical Gardens, Buitenzorg. This position he retained until the formation of the Government Department of Agriculture in December, 1904. The Botanical Gardens, the Experimental Gardens, Laboratories and Museums are all now under the jurisdiction of the new organisation of which Dr. Treub is the head. The department has been in existence for five years only, but it is thoroughly efficient, and the valuable work it has accomplished is recognised by all who are in any way interested in the agricultural prosperity of Java and the surrounding islands.

H. J. E. WENCKEBACH is the Director of that department which has now the control of all the Government industrial enterprises, and, consequently, is responsible among other things for the efficient organisation and administration of the Government railways, the Government collieries, the post, telegraph and telephone service, the Government mines, the salt monopoly, and the manufacture of opium. Born at The Hague in 1861, Mr. Wenckebach was educated as an engineer at the Military Academy, Breda. Having concluded his technical studies and obtained the necessary diplomas, he was appointed a lieutenant engineer in 1880. He resigned the military service eleven years later in order to join the State Railway Company in Holland. He served with them for seven years, and was then offered and accepted the position of Director of the North-Eastern Railways. He did not retain this appointment for long, however, as within a year he had joined the Government service again—this time as Director-General of the Government Collieries at Limburg. He was transferred to the Colonial Service in 1907, and, arriving in Java in 1908, he was commissioned to travel through the country and to report upon the progress and condition of the various Government industries. These duties kept him occupied for several months. At their conclusion, in May, he was promoted to his present position.

F. A. LIEFRINCK, who was appointed Director of the Department of Finance in the spring of 1900, in succession to Mr. Hartevelt, is a brother of Mr. Liefrinck, of the Council of Netherlands India. Born in 1864 in Holland, he studied law privately, specialising in all matters relating to the administration of Customs. In 1895, he became Inspector of Customs for Friesland, and five years later was appointed Inspector of Customs for Holland. Mr. Liefrinck came to Netherlands India as Inspector of Finance in 1900, and held this position until attaining his present post.

J. A. NEDERBURGH, who succeeded Mr. A. L. E. Gastmann as Director of Justice in the summer of 1900, was born in Batavia on January 26, 1861. At the age of eight years, he went to Holland for his education, and in 1882 took his degree of Master of Laws, his essay being "The State Property in Java." The same year, he passed the Civil Service examination, and returned straightway

to Netherlands India. He was attached to the Courts in various centres, including Meester Cornelis, Serang, Magelang, Balang-nipa, Macassar, Garoet, and Cheribon. Whilst in the Celebes, he made particular study of the manners and customs of the people, and published the result of a few of his observations in a series of historical notes upon the law-giving by the priests in the island, dealing later on with the same subject, but in a somewhat more comprehensive fashion, in the periodical, *Wel en Adat*, which he founded. In 1895, Mr. Nederburgh was appointed member of the Council of Justice at Batavia, and except for a two months' commission in Achin, he has been engaged in legal work in the capital ever since. In 1900, he became Recorder of the High Court, and in 1903, a member of the Court, a position

1906, major-general in 1908, and succeeded Lieut.-General Rost van Tonningen in the supreme command in Netherlands India in 1907. Lieut.-General Van der Willen was present at the Japanese Army manoeuvres in 1904, when he was created a Commander of the Order of the Holy Treasure of Japan. He also represented the Netherlands Indian Army during the Boxer riots in China in 1900. For his services in various expeditions in Achin, the Lieut.-General was awarded the Dutch equivalent to the English D.S.O. His other decorations include the Order of the Netherlands Lion.

REAR-ADMIRAL A. H. HOEKWATER, the Commander of the Naval Forces in Netherlands India and Chief of the "Departement der Marine," was born in 1854, and



DIRECTORS OF DEPARTMENTS.

1. H. J. E. WENCKEBACH, Director of the Department of Government Industries.
2. MAJOR-GENERAL R. F. J. WINKERFIELD BISHOP, Chief of the Government Medical Service.
3. DR. M. S. KOSTER, Director of the Department for Education, Public Worship, and Industry.
4. F. A. LIEFRINCK, Director of the Department of Finance.
5. A. L. E. GASTMANN, President of the High Courts.
6. LIEUT.-GENERAL P. C. VAN DER WILLYEN, Commander of the Military Forces in Netherlands India.

he retained until he received his present appointment. Mr. Nederburgh is an Officer of the Order of Orange-Nassau and a Knight of the Order of the Netherlands Lion.

LIEUT.-GENERAL P. C. VAN DER WILLYEN, the Commander of Her Majesty's Forces in Netherlands India, has a record of military service extending over the past thirty years. Born in 1859, and educated at the Military Academy, Breda, he entered the army as a second lieutenant of artillery in 1880. Two years later he was promoted first lieutenant; became captain in 1890, major in 1899, lieutenant-colonel six months later; colonel in

entered the navy as a cadet at the age of fifteen years. He became a full-fledged midshipman in 1872, a sub-lieutenant in 1875, and gradually worked his way through the various ranks until appointed rear-admiral in 1907. He succeeded Vice-Admiral Sneathlage in the command in Netherlands India in 1909. The Rear-Admiral is the possessor of many orders and distinctions. He is a Knight of the Military Order of William, a Knight of the Order of the Netherlands Lion, an Officer of the Order of Orange-Nassau, a Knight of the Third Class of Simon Bolivar, Venezuela; and a Knight of the Third Class of the Red Eagle of Prussia.



RIVER SCENE IN SUMATRA.

FINANCE.

BY DR. J. PAULUS, Acting Secretary to the Department of Finance.



THE monetary system in the Dutch East Indies is closely akin to that of the Mother Country. The unit of currency is the Dutch florin (gulden), having a weight of 10 grammes and containing 945 grammes of fine silver. Owing, however, to the fact that the free coining of Dutch silver money is not permitted, the currency value of the silver coinage is determined not by the market value of silver, but by the value of the gold 10-florin piece, to which the florin stands in a ratio of value fixed by law. In consequence, the florin has a currency value of something more than 1s. 8d. (Fl. 12.10=one pound sterling).

The following table indicates in florins the revenue and expenditure of the Colony for ten years, 1898-1907 :—

	Revenue.	Expenditure.
1898 ...	132,432,135	150,709,404
1899 ...	142,600,402	144,371,545
1900 ...	151,800,380	146,115,382
1901 ...	149,379,896	149,903,204
1902 ...	146,616,335	160,675,007
1903 ...	151,364,470	167,111,104
1904 ...	152,617,233	166,537,090
1905 ...	155,646,063	166,222,778
1906 ...	169,340,004	167,950,851
1907 ...	184,716,767	172,990,500

From this table, it will be seen that the revenue has increased by about 40 per cent. during the past decade, and taking into consideration the continual growth of the population, the progressive energy and intensity of exploitation of the various islands beyond Java, and the development of the sources of prosperity on those islands, there is no reason to suppose that the revenue will not continue to show a large increase in the future.

The table shows that in seven out of the ten years the expenditure exceeded the revenue. Taking the period of ten years, about 56 million florins were expended in excess of the revenue. Against this, however, we have the fact that during those years the outlay on productive works was as follows :—

	Fl.
Construction of railways and tramways ...	56,328,400
Irrigation work ...	17,100,000
Harbours and channels ...	2,660,000
Waterworks in Sourabaya ...	3,605,000
Telegraph cables ...	4,576,000
	Fl. 84,269,400

and further, during the last three years, 1905-7, a sum of Fl. 3,754,400 was spent in measures having for their object the increase of the economic bearing capacity of the population, such as the establishment of agricultural credit banks, improving the breed of horses and cattle and poultry, promoting fisheries, construction of roads, and emigration.

The excess of expenditure over revenue, therefore, was fully justified. The fact that this excess was sometimes (1898, 1902, 1903, 1904, and 1905) so considerable in one year, is, moreover, in part, most assuredly due to the circumstance that the Budget is still very appreciably dependent, though in a far less degree than formerly, on the yield of products (direct yield and yield in price), of which it is impossible to be sure beforehand. Thus, in 1898 the coffee cultivation yielded 9 million florins less than had been estimated; in 1901, 4½ millions; in 1902, coffee produced 2 millions, coal mining 1 million, and forestry 800,000 florins less than the estimated figure. In 1903, the proceeds from coffee were 14 millions, from forestry 1 million, from salt

2 millions, from coal mining 800,000, and from tin 600,000 below the estimate. In 1904, coffee failed to reach the estimated figure by about 5 millions, forestry by about 500,000, coal mining by 700,000, and salt by 700,000. In 1905, the yield from all sources of income was low, owing to general depression of trade and unfavourable economic circumstances.

The above-mentioned deficiency of 56 million florins was partly covered by surpluses from a couple of earlier loans and partly by a sum of 40 million florins borrowed for account of the Mother Country by virtue of a law of March 18, 1905, and presented by the Mother Country to the Colony for the purpose of increasing the latter's economic power of resistance.

REVENUES.

The sources of revenue may be divided into the following four groups :—

- I. Taxes.
- II. Monopolies.
- III. Government Industries.
- IV. Other Revenues.

Below are given the most important of the various specific revenues, &c., belonging to these four groups, with the amounts of their yield as estimated for the year 1909.

I. TAXES.

	Fl.
1. Taxes on Persons.	
Capitation Tax as an equivalent for abolished Statute Labour	3,627,000
Redemption of Statute Labour	568,000
2. Taxes on Sources of Income.	
Land Rent and similar Agricultural Incomes	10,034,000
Ground Tax ...	2,232,000
Export Duties ...	2,059,000

3. Taxes on Individual Incomes.		
Tax on Industrial and other Incomes	4,712,500	
Capitation Taxes on the Islands beyond Java	2,713,500	
Income Tax	4,230,000	
Personal Tax	1,193,000	
Import Duties	14,332,000	
Excise	7,479,000	
Slaughter Tax (farmed and own administration)... ..	2,150,100	
Alcoholic Liquors Tax (farmed)	431,000	
Tax on Games of Chance (farmed and licences)	1,350,600	
4. Taxes on Transactions.		
Stamp Duty	1,555,000	
Duty on Public Sales... ..	664,700	
Transfer and Assignment Duty	672,000	
Estate and Succession Duty	141,000	
Harbour, Anchorage, Quay, Wharf, and Pilot Dues	1,328,000	
Furnishing a total yield of Fl. 70,482,000		

II. MONOPOLIES.		
Opium—own administration, farmed and licences	23,100,000	
Salt	11,085,000	
Pawnbroking Establishments, Government and farmed	6,925,600	
Furnishing a total yield of Fl. 41,710,600		

III. GOVERNMENT INDUSTRIES.		
Agriculture :		
Coffee	2,015,764	
Peruvian Bark Tree	621,500	
Forestry	5,008,000	
Mining :		
Tin	20,108,287	
Coal	3,093,000	
Means of Transport and Inter-course :		
Railways	10,838,500	
Tramways	550,000	
Post, Telegraphs, Telephones	4,152,830	
Furnishing a total yield of Fl. 50,287,001		

IV. OTHER REVENUES.		
Land Grants (partly on lease)	1,668,000	
Proceeds from Convict Labour	1,350,000	
Furnishing a total yield of Fl. 3,018,000		

The races living side by side with each other in the Colony are numerous : Natives, Chinese, Arabs, and many other Orientals, and Europeans. If the differences in civilisation and economic development between these are great, the difference between the natives themselves in the various islands is far greater still. An inevitable result of this is that the taxes levied vary in respect to the different categories, being adapted to the condition of each. There are, thus, not only other direct taxes for the natives than for Europeans, but there are also other taxes for the natives on one island than for those on another, and at times in one part of the same island the taxes differ from those in another part. For Europeans the direct taxes are the same throughout the Colony.

A circumstance which merits attention in a high degree is the fact that the "farming" system, which was in operation both in the collection of some taxes and also in the management of the monopolies—sale of opium and pawnbroking—has of late years been slowly converted into direct collection and working. The nature of the "farming" system was, and is, that the right to collect certain taxes and exercise certain monopolies was put up at auction and sold to the

highest bidder, to whom a carefully regulated and limited power was delegated by the State to collect the revenue in question. With this system of collecting taxes and working monopolies, however, the interests of the taxpayer or the consumer of the monopoly article is too often lost sight of by the tax farmer to his own profit. All kinds of abuse crept in. Moreover, it was too often found that, as a result of keen competition between the bidders, the amount offered was greater than the tax farmer could really gather. The result was that he did not carry out his obligations to the full, and a more or less serious loss to the Government followed. Finally, the "farming" of considerable sources of revenue results in varying amounts of revenue, owing to the considerable fluctuations in the tender.

The "farming" system was practised, and is now still practised, in part in connection with the slaughter taxes, the tax on games of chance, on alcoholic liquors, opium, salt, pawnbroking establishments, ferries, and edible birds-nest cliffs. In 1914, it is intended to work all pawnbroking establishments in Java under direct administration, after which year the same method will be extended to the outlying possessions. In 1910 it is contemplated to allow the continuance of the "farming" system for opium only in the provinces of Atjeh, the East Coast of Sumatra, and Riouw. The salt tax is only "farmed" now in a couple of regions of the residency of the East Coast of Sumatra. The tax on games of chance is "farmed" in a portion of the residency of Batavia and in the residency of Semarang and Sourabaya and the possessions outside Java. The tax on alcoholic liquors is "farmed" on the possessions outside Java, the slaughtering tax on some of the outlying possessions. Furthermore, on these outlying possessions a few more small taxes are "farmed," but are too inconsiderable to be worth mentioning here.

DIRECT TAXES.

There are two taxes imposed in connection with the exercise of real property rights : one for lands held by virtue of the native law of possession (which may only be exercised by natives)—the land rent ; the other charged on lands possessed by the European right of ownership or any other European real right—the ground tax. I would add here that the land rent more specifically is a ground tax, special to the island of Java ; on various possessions outside Java, however, there are taxes of the same essential character, whether called land rent (on wet rice fields), or tax on dry rice fields and gardens (Bali), or tithes of the rice yield (Celebes), or the tithe tax (South-East Borneo).

Concurrently with the tax in the form of land rent on the agricultural incomes of natives, there is imposed on them—I here again refer to Java—a tax in respect of their incomes from other sources : tax on industrial and other revenues. To this tax foreign Orientals ranking on a like footing with natives are likewise subject. It amounts to 12 per cent. to 45 per cent. of the income, is progressive up to a certain limit (incomes from Fl. 630 per year), and beyond this is imposed on incomes exceeding Fl. 630 at a fixed percentage of 45 per cent. ; incomes of Fl. 50 per year and less are free. It is applicable to all persons possessing an income, even though under age.

On the islands outside Java, with the exception merely of one or two provinces, the natives, and the foreign Orientals on a like

footing with them, are likewise assessable to taxes on revenue. These taxes, however, differ according to the province, and here and there according as the persons taxed are local born natives, not local born natives, or are foreign Orientals. In one case, the tax may be a tax on industrial and other incomes levied according to the same principles and practically with the same regulations as the tax in Java. In another, it is a tax likewise termed a tax on industrial and other revenues, but somewhat more simple in its application than the above, a tax taking 2 per cent. of the income of all members of the population, with the exception of incomes of Fl. 50 per annum or less, or incomes on which only Fl. 1 or less could be levied. Then again, it is a tax which is framed on a still more simple principle, and which, termed a capitation tax, likewise amounts to 2 per cent. of the income (in one single province 6 per cent.), but with a minimum levy of Fl. 1 (in one single province Fl. 6.50) without any exemptions ; in one province the capitation tax is levied on all members of the population beyond a certain age, in the other again only on persons of the male sex above a certain age (16, 18, or 21 years).

It may be mentioned by the way that in one region (Gorontalo, island of Celebes) there is likewise a tax called a capitation tax, but which is not a tax in the sense of having any relation to the means of the payer ; it is a fixed, immutable sum of Fl. 5 per head per year levied on all male persons above eighteen. Finally, it may be pointed out that in the province or two where, as mentioned above, no income tax and likewise no capitation money is levied on the native population, the reason is either that the natives are subject to a fair amount of forced labour for the benefit of the roads (Banca), or that the natives are still at a very low degree of civilisation, owing to which there is practically no money in circulation (South of New Guinea).

If the incomes of the natives are subject in the way described above to a tax levy for treasury purposes, there is a similar levy on the European inhabitants of the Colonies, but of a more consistent character—the income tax. This tax, which exempts incomes from Fl. 900 per annum, is levied on incomes from Fl. 900 to Fl. 12,000 at 5 per cent. This income tax, however, is not merely charged on the incomes of individuals, but likewise of limited companies, limited partnerships, mutual insurance companies, and associations and establishments carrying on some business as their vocation.

For the Europeans and foreign Orientals there is furthermore a special tax called a personal tax, which is really a sumptuary tax levied according to the rental value of the house, the value of the furniture therein, the carriages, and the number of horses and bicycles.

INDIRECT TAXES.

In addition to the above-named direct taxes there are the following indirect taxes :—

1. Taxes on transactions, transfers, estates, &c.

(a) The estate duty, a tax assessed upon the value of all that is inherited out of the estate of a European resident ; and the transfer duty, being a tax levied on the value of all real properties within the Dutch East Indies inherited from the estate of a person who is not a resident.

(b) Stamp duty, a tax due on all documents intended to constitute proof, and on petitions to authorities.

(c) The tax on public sales. Public sales may not be held save under the supervision

of a Government official auctioneer. For this work of the Government both the purchasers and the vendors pay certain auction dues.

(d) Assignment duty. A tax on agreements which give rise to the assignment of the ownership of or right of erecting buildings upon real properties, and the ownership of ships, in the public registers kept for that purpose, by inheritance or legacy, of the right of ownership or building right on such properties left by natives and those ranking on a like footing with them.

(e) Harbour and anchorage duties, quayage, wharfage, and pilotage. With regard to harbour and anchorage dues, it may be pointed out that they constitute a tax imposed on ships arriving in a harbour or roadstead

Attention is given in particular to prevent the native population taking part in speculative games not open to the public.

3. Import and export duties, and excise.

Import duties.—The idea of protection is totally foreign to the tariff of import duties. The tariff is merely for the purposes of revenue and is moderate. Many categories of articles (thirty-two) are entirely duty free. On fourteen articles, such as distilled spirit, wine, beer, mineral waters, cards, there is a specific duty, and on the remaining articles a duty *ad valorem* of 6, 8, 10, or 12 per cent.

Export duties exist in Java only on four articles (hides, tobacco, tin, and birds' nests); on the islands outside Java, the export duties are somewhat more numerous, affecting

on the killing of pigs. In one single region there is no slaughter duty at all. In a few provinces it is levied by being "farmed" out; in the other provinces, however, it is collected administratively.

5. A tax on alcoholic liquors, a tax taking the place of the excise on native distilled spirit levied in Java, occurs in various provinces outside Java. The fact deserves mention here, that in various regions in the archipelago the consumption of alcoholic drink is, in the interest of the native population, opposed by restrictive enactments regarding the importation and sale of these liquors, and that the Government contemplates extending these restrictive enactments to other regions.

In addition to the money taxes, labour



PRINCIPAL BANKING OFFICIALS IN JAVA.

- | | | |
|---|---|--|
| 1. J. F. DER KINDEREN (Nederlandsch Indische Handelsbank, Batavia). | 6. JAN DINGER (Nederlandsch Indische Escompto Maatschappij). | 12. J. STROOBACH (Nederlandsch Indische Escompto Maatschappij, Semarang). |
| 2. J. GERRITZEN, (Director-Secretary of De Javasche Bank). | 7. TH. J. VAN ROSSUM (Netherlands Trading Society, Sourabaya). | 13. W. DRYSDALE (Hongkong & Shanghai Banking Corporation, Ltd., Sourabaya). |
| 3. H. A. S. THOMPSON (Chartered Bank of India, Australia and China, Sourabaya). | 8. G. VISSERING (President of De Javasche Bank). | 14. J. VAN KEMPEN (De Javasche Bank, Sourabaya). |
| 4. P. J. STEPHAN (Nederlandsch Indische Escompto Maatschappij, Sourabaya). | 9. H. VAN STRAATEN (Netherlands Trading Society, Sourabaya). | 15. J. F. BEDDY (Chartered Bank of India, Australia & China). |
| 5. W. VAN HEUSDEN (van Heusden & Mees, Batavia). | 10. A. J. C. VAN KERKHOFF (Nederlandsch Indische Handelsbank, Sourabaya). | 16. M. C. KIRKPATRICK (Head Agent, Hongkong & Shanghai Banking Corporation, Ltd.). |
| | 11. TH. LOHMANN (Nederlandsch Indische Handelsbank, Semarang). | |

of the Dutch East Indies where import and export duties are levied by the Government, with the proviso that for six months after the time of arrival they are not due afresh, even if the ship during that period arrives several times in more than one of the above harbours or roadsteads or several times in the same harbour or roadstead. The tax amounts to Fl. 0.16 per cubic metre of the ship.

2. A tax on games of chance, "farmed" out in some provinces and in others collected by the grant of licences. The Chinese alone have the right of access to these games,

mainly forest products, but even then they are comparatively few.

Excise is levied on spirit distilled at home, tobacco when imported by sea into the two provinces of Borneo, petroleum, and matches.

4. Slaughter taxes, applying both to Europeans and natives.

In some provinces, a tax is imposed both on the slaughter of oxen, buffaloes, and horses, and also the killing of pigs; in some other provinces, only on the slaughter of oxen, buffaloes, and pigs. In others, again, only on oxen and buffaloes; in yet others,

taxes in the form of forced or statute labour existed in former years almost everywhere, to a very large degree, and still exist, though in a less degree. In Java, it is only in existence at the present time for the maintenance of roads, dykes, and dams, water-works and water conduits. This is a form of tax which is specially adapted for a degree of economical development in which money is still scarce and work is of comparatively little value to the population. Where the economic condition develops and the needs of the population increase and their

prosperity is enhanced, the forced labour becomes more onerous than money taxes, and there is the tendency to convert this labour tax into a money tax or to render it possible for the population, wherever it desires, to redeem the forced labour. Both these facts have already been realised in this colony. Some categories of forced labour or the forced service in some regions have been abolished for good, and have been replaced by the capitation tax mentioned in the table above, levied on those liable to forced labour, and amounting as a rule to as many times one florin as the village, on January 1 of the year of estimate, contains persons liable to forced labour. In conjunction with this, for the forced labour which continues in existence, the opportunity is afforded to conclude agreements with each village in respect of such forced labour with regard to the redemption of one or more services they are bound to render. This represents the item "redemption of forced labour" in the table.

MONOPOLIES.

SALE OF OPIUM.—The exertions of the Government in respect to the sale of opium for about ten years have been in a state of transition. The object is to attain finally as near as possible to a cessation of the use of opium except for medicinal purposes. In order to achieve this, it was essential in the first place that the sale of opium, which, prior to 1898, was carried on throughout the Dutch East Indies by tax farmers, should come under the direct administration of the Government. This process of replacing the "farming" method by its own administration has occupied the Government for the past ten years. In Java it has already been completed, and in the islands outside Java this will soon be the case.

With direct administration, there is, in the first place, the security that the use of opium will not be artificially fostered and extended to the advantage of the tax farmers. In the second place, the Government is enabled to restrict the sale gradually by increase of price, or in a region where the sale is small, to stop it completely and declare this region prohibited for opium. In other regions, the Government is able to register the known smokers and to allow the use of opium only to persons who have a licence, and then only to a limited quantity, so that on the departure or death of these smokers the regions can be immediately declared prohibited. There are already many regions entirely closed to the use of opium. The Government in its endeavours to this end is entirely guided by ethical motives, notwithstanding that the entire suppression of opium will cause a net loss to the Treasury of about 17 million florins. The desired condition, however, will be but very slowly attained. The opium smoking is a deep-rooted habit in numerous provinces among a considerable section of the population, particularly those of Chinese origin, and the demand for the product is so urgent eventually that it would be satisfied by illegitimate means, no matter at what risk. Even now, the importation of smuggled opium by sea takes place. The contraband importation and the trade in contraband opium would immediately assume gigantic proportions if, without any change having occurred in the habits of the population, the Government suddenly ceased to supply the product.

PAWNBROKING.—There has likewise been a great change of late years in the Government pledge-houses, namely, an improvement for the better owing to the conversion of the

"farming" system into the working of the pawnbroking establishments under direct administration, so that all trickery on the part of the farmers, such as the advancing of too small sums on loan, the sale of pledges the time of which has not yet expired, has been brought to an end. This reform is not entirely completed. Not before 1914 will the working of the pledge establishments in Java be entirely in the hands of the Government. Pawnbroking establishments have now once for all become, for the less well-to-do classes of the population, the means of securing credit. They are indispensable. It is the intention of the Government, however, when these establishments are entirely under direct administration, to fix the tariff of interest in such a way that it will only cover the cost of service of the department, without in any way forming a source of revenue.

SALT MONOPOLY. This monopoly is in existence for Java and Madura, five provinces in Sumatra, and the two provinces of Borneo, Banca, and Billiton. In conjunction herewith, the preparation of salt, save by permission of and for the purposes of the Government, is prohibited. The preparation of Government salt now takes place only on the island of Madura, where the salt is disposed of by the population to the Government for a fixed price.

In the above-mentioned parts of the Colony the whole of the salt is supplied by the Government, with the exception that fine table salt may be imported on payment of an import duty.

In the exercise of this monopoly a reform has taken place of recent years which is worth mentioning.

Formerly, it was the custom everywhere, and it even remains the custom for the present in the majority of the monopoly provinces, for the salt to be sold in the various selling warehouses of the Government in the condition in which it was and is prepared by the population, i.e., as loose salt. When selling in this way, frauds and trickery in weight are not unknown; and the method of sale has above all the disadvantage that the number of depôts for the loose salt is, of course, limited, so that the population, which buys only in small quantities at a time, cannot at every moment reach the Government salt warehouse, often a long way off, and, owing to these circumstances, has recourse to intermediaries, who force up the price. A few years ago, the Government erected factories in Madura, where the salt is pressed into briquets of a definite weight. In this briquet form, the salt now reaches the population in some nine monopoly provinces. In this form of briquets it can be obtained in very small quantities, namely 0.6, 0.3, and 0.15 kilogrammes at 8, 4, and 2 cents respectively, and, moreover, in this form it is possible to store it in small quantities far in the interior of the country in the residence of subordinate Government officials, so that intermediaries become superfluous.

It is intended to introduce this system in the remaining provinces where the salt monopoly is in force.

GOVERNMENT INDUSTRIES.—The appearance of the Government in the capacity of manufacturer or agriculturist is certainly no new thing in the comity of nations. But in the Dutch East Indies, above all, during the last hundred years, a remarkable event has been observed, inasmuch as for a long time the revenues obtained from State agriculture, namely, coffee cultivation and the preparation of sugar, were so large that they represented

one-half of the total revenues of the State. I here have in mind the years 1872-81, in which, with a revenue budget averaging 144 million florins per annum, the coffee cultivation alone yielded an average of 50 millions and the preparation of sugar 12 millions, a total of 71 millions per annum. The Government sugar cultivation was abandoned many years ago. Government coffee cultivation still continues in some regions. This culture of the coffee plant by the Government was—and is still in the regions where it continues in existence—characterised by two features: in the first place, the forced labour required by the population inhabiting the vicinity of the Government coffee plantations; in the second place, the obligation upon those exercising the native right of possession to land to hand over all coffee produced by them, either freely or under compulsion, on such ground, to the Government, and the system of formalities connected with the conveyance of coffee relating to this obligation.

The forced labour in past times may have taught the population of Java to work, but at the present time, under changed economic circumstances and conditions of development, it has become a hindering factor, just as did the restriction imposed upon the native owners of land in respect to their right of disposal of their product, and the restrictive measures which hence resulted to the European agriculturist likewise cultivating coffee on lands possessed by European title. Meantime, however, the Government coffee cultivation in the Dutch East Indies—as a result among other things of the competition of American coffee and the consequent large reduction in profits—is in process of disappearance, and in a few years' time it will have ceased to exist as a branch of Government industry.

In the Government cultivation of Peruvian bark trees, there is no forced labour, and there are no forced services in the form of a work tax in any of the other industries now under the Government.

Tin is found on the islands of Banca and Billiton. On Banca, the working is carried on direct by the Government. On Billiton, it is carried out by a company, which, however, is required to make over five-eighths of its profits to the Government.

Coal-mining takes place at Sawah Loento, on the West Coast of Sumatra.

It follows as a matter of course that the revenue from certain sources of revenue, is absorbed more or less by the cost of administration or collection; from some sources, however, the net yield presents no inconsiderable difference from the gross yield. This is particularly the case in the two groups, monopolies and Government industries. The following table exhibits this:

	Gross Yield. Fl.	Expenditure. Fl.	Net Yield. Fl.
Opium ...	23,100,000	5,842,111	17,257,889
Salt ...	11,807,000	2,874,851	9,022,149
Pawnbroking ...	6,025,000	6,267,000	658,000
Coffee ...	2,915,704	2,117,918	797,846
Peruvian bark trees...	621,500	440,730	174,861
Forestry ...	5,008,000	1,610,400	3,388,600
Tin ...	20,108,287	7,872,647	12,235,640
Coal...	3,003,000	2,808,095	194,905
Railways ...	10,838,500	13,001,600	5,846,000
Post, telegraph, and telephone service ...	4,152,830	4,517,400	364,600

As will be seen, the postal, telegraph, and telephone services close with a debit, but it must not be lost sight of that in the

expenditure account, amounts appear for the purchase and laying down of telegraph and telephone lines and the despatch of necessities. Thus the 13,901,600 florins spent in connection with the railways include an amount of 1,495,000 florins for laying down new lines.

As regards taxes, only the land rent and the import and export duties and excise involve any large expenditure in collection, and this expenditure is Fl. 1,532,840 and Fl. 1,432,150 respectively; for all other taxes together the costs of collection may be given as roughly totalling Fl. 800,000. Consequently, the share in the State revenues provided by the income group of taxes is yet much more considerable in comparison with the other groups than would seem to appear on the first examination of the tables in the beginning of this article.

It is also worth while to set opposite the various groups of revenue, as estimated for 1909, the same groups as they appeared in florins forty years ago:

	Taxes.	Monopolies.
1868 ...	23,205,000	20,270,000
1909 ...	70,482,000	41,710,000
	Government Industries.	Land Disposal.
1868 ...	69,171,000	350,000
1909 ...	56,287,881	1,608,000

From these figures, it is perceived that the revenues from the Government industries, on the whole, have gone down. This is to be attributed to the falling off in coffee cultivation, which in 1868 yielded about 45 millions and for 1909 is estimated at about 3 millions, and to the abandonment of the Government sugar industry, which in 1868 still produced about 20 millions. The decline in the total figures under this head would have been much more striking if, in later, and during very recent years, there had not been a large increase in revenues owing to tin mining and railways. From the figures given it is furthermore seen that the revenues from monopolies have doubled. The proceeds of taxation, however, have trebled, an unmistakable sign of the great economic progress achieved during the past forty years.

EXPENDITURE.

The State economy in the Dutch East Indies is under the control of the Governor-General, assisted by chiefs of the various departments of General Administration, including the commanders of army and navy, whilst as regards the Civil Administration the Governor-General is represented in the various provinces by governors or residents.

The expenditure may be most clearly exhibited if classified according to the various departments to which it relates. We thus obtain for the year 1909 in estimated expenditure:—

	Fl.	Fl.
Governor-General (annual remuneration)		132,000
Cabinet of the Governor-General ...		348,600
Council of the Dutch East Indies ...		151,200
General Chamber of Accounts ...		455,380
Department of Justice		6,202,786
Of which the Judiciary require ...	2,908,814	
Prisons ...	2,602,618	
Department of Finances		21,253,836
Of which for collection of taxes ...	1,107,550	

	Fl.	Fl.
For working opium monopoly, namely, the sale apart from purchase and preparation ...	4,184,646	
For working pawn-broking establishments, direct administration ...	6,086,000	
For service of import and export duties and excise ...	1,394,150	
For pay on leave, pay in reserve and pensions ...	6,023,000	
Department of Internal Administration ...		24,650,118
Including: For administration ...	13,436,851	
For police ...	1,384,991	
Department of Education, Public Worship, and Industry		11,786,746
Including: For education ...	7,520,236	
For public worship ...	783,986	
For medical service ...	2,977,906	
Department of Agriculture ...		7,071,876
Including: For Government coffee cultivation ...	1,911,935	
For forestry ...	3,381,400	
For veterinary service ...	322,265	
Department of Civil Public Works ...		15,359,116
Including: For irrigation and drainage ...	3,561,500	
Department of Government Industries ...		32,078,916
Including: For opium factory ...	1,325,265	
For working tin mines ...	7,748,265	
For working coal mines ...	2,830,095	
For working salt monopoly ...	2,734,851	
For post, telegraph, and telephone ...	3,701,530	
For laying down railways ...	12,748,600	
Department of War ...		27,957,438
Department of Navy and Marines ...		*5,918,944
Including outlays in the interests of navigation (buoys, coast lights, pilotage, harbours, and channels) ...	1,954,944	
Local and Provincial Administration ...		4,605,828

In addition to this expenditure for the Dutch East Indian state economy, outlays have likewise to be met for the purposes of the same administration in the Netherlands themselves: expenditure in procuring and despatching the necessities for the various service departments; the share of the funds of the Dutch East Indies to defray interest and redemption of the national debt of Holland in respect of money lent for the particular needs of the Indies; pay on leave of absence and pension; transport costs of Government passengers, including soldiers; share in the costs of the training of Indian officers in the Netherlands.

* Exclusive of the expenditure on account of the Fleet, borne by the Mother Country.

These outlays in the Netherlands are estimated altogether at Fl. 31,712,476 for 1909.

In the foregoing statement, a view of the financial administration is presented. The Budget, i.e., the calculation of the needs of each year and estimate of the revenues, is determined by the ordinary legislature (Queen and States General) in Holland, on the basis of data collected and supplied by the Indian Government.

An exposition and view of finances in the economy of any state is not complete if it does not take into consideration the loans to which that state has had recourse, and the expenditure which has, in consequence, to be met annually in the shape of interest and redemption. Until the present time, the Dutch East Indies have not possessed any corporate legal character, and could not, therefore, contract loans in their own name. The Mother Country, however, issued loans for the Colony. It was pointed out above that the loan of 40 millions authorised by the law of March 18, 1905, was contracted for account of the Mother Country. The proceeds were used as far as possible to pay off the advances to the Dutch East Indies made out of the Dutch Treasury to meet the adverse balances of the years preceding 1905. By the law of March 16, 1883, however, a loan was concluded—converted into a 3 per cent. loan by a law of December 30, 1895—in the proceeds of which the Dutch East Indies took a share of 44 million florins, reduced by redemption to Fl. 40,850,000 at the end of 1908. Furthermore, by law of June 9, 1898, there was concluded by the State, on behalf of the Dutch East Indies, a further 3 per cent. loan of Fl. 57,815,000, nominal, reduced by amortisation to Fl. 50,517,550, for which the Colonies require to pay yearly in the shape of redemption and interest, an amount of Fl. 3,800,000, which appears yearly in the Budget.

It is needless to point out that in view of the immeasurable riches of the Colony, and the industrial population of the island of Java alone, a debt of 108 million florins is quite insignificant, still more so if it be considered that at this moment there are 1912 kilometres of State railways in Java, and in Sumatra 231 kilometres of State railways and 432 kilometres of State railways, representing a value in laying down cost of 158 million, 23 million, and 17 million florins respectively.

The task of collecting the Government revenues is incumbent chiefly on the Director of Finances and his staff, yet the Director of Internal Administration, the Director of Government Industries, and the Director of Agriculture are also responsible for the collection of a portion of the revenues.

The work of the Director of Internal Administration includes the assessment and collection of land rent in Java and the equivalent taxes in some provinces of the possessions outside Java, in addition to the collection of the capitation tax of those subject to forced labour in Java and the moneys arising out of the redemption of forced labour. In this task, the Director of Internal Administration is assisted by the heads of provinces, and by an Inspector for the Rural Revenues and Statutory Labour.

The matter of assessment and the levying of all other taxes as well as the administration of the Treasury is in the hands of the Director of Finances. He is aided in this task by the heads of the provincial government and also by Inspectors and Assistant Inspectors of Finances (these likewise maintaining supervision over the administration of the general receivers of the land treasury

offices), and specially as regards the import and export duties and excise, by the chief inspector of that branch of the service. Under the authority of the Director of Finances are the monopolies of pawnbroking and opium; as far as these monopolies are conducted by the Administration direct, their management, under the supervision of the Director, is in the hands of an Inspector of the Pledge Department and the Chief Inspector of the Opium Monopoly.

The salt monopoly is under the Director of the Government Industries, as are likewise the tin mining, coal mining, railways, posts, and telegraphs. The Director is assisted in this by the Director of the Salt Packing Department, by the Mining Chief, the Chief Inspector of Railway Services and

ment is established, with representative councils and with their own financial resources. These financial means are partly supplied out of the general treasury—see the last item appearing on the table "Expenditure" above—and may partly be found by their own taxation.

2. In various provinces there are native states which, under the suzerainty of the Government, have retained a certain autonomy; levies of those districts made by the subjects of the chief (rajah) of the state are for the benefit of that chief. The Government, however, has been able to induce the rajahs of those regions to pay a part, and a large part, of the money into what is called a public State fund, under the management of a European officer, in order

which are fully paid up, being in the hands of the general public. Permission to act as an "issue bank" can be obtained only by royal decree, and while such permission might legally be given to more than one corporation, the principle of one "bank of issue" has been adhered to in Holland since 1814. If that principle were broken, the Netherlands India Government would lose their share in the profits of the Javasche Bank, which share last year amounted to no less than G. 546,636.

The standard coin in Netherlands India is the Dutch gold 10-guilder piece, weighing 6.720 grammes with $\frac{9}{1000}$ ths fine gold. The Dutch silver coins of 2½, 1, and ½ guilders are also legal tender in the Colonies and the Mother Country for any amount,



DE JAVASCHE BANK, BATAVIA.

Steam, the Chief of the State Railway Services in Java, and the Chief Manager of the Sumatra Railway and the Ombilin Mines, as also the Chief Inspector of the Postal, Telegraph, and Telephone Service.

Finally, there is incumbent on the Director of Agriculture, the concern of the coffee and the Peruvian bark tree cultivation, and the Government gutta-percha and caoutchouc plantations, forestry, and the profits arising out of these. As regards forestry, he is assisted by a chief inspector, head of the service.

I do not wish to conclude this review of the finances of the Dutch East Indies without adding the following:—

1. In various provinces and divisions of regions in the Colony, limited self-govern-

ment that it may be used for expenditure in the general interests of the population.

This, however, is not the place to dwell at greater length on the special financial arrangements and resources of provinces and parts of provinces possessing self-government, and semi-autonomous native states.

BANKS.

DE JAVASCHE BANK.

DE JAVASCHE BANK, which, since its establishment in 1828, has been the only bank empowered to issue bank notes in Netherlands India, is constituted as a private company with limited liability, the shares,

and for this reason are also called standard coins. De Javasche Bank is, therefore, like the Banque of France, entitled to effect payment in silver to any extent. With regard to international transactions, however, De Javasche Bank has always been prepared to give gold on gold drafts on sight, or by telegraphic transfer, as it considers it its duty to assist as much as possible in settling international obligations on the gold basis. Owing to the Oriental preference for silver, it is difficult to keep gold in circulation, and, in consequence, it is of great importance for the bank to take measures to maintain the gold parity. In consequence of the large exports and the comparatively small imports of the Dutch Colonies, however, such a task up to the present has not been a difficult

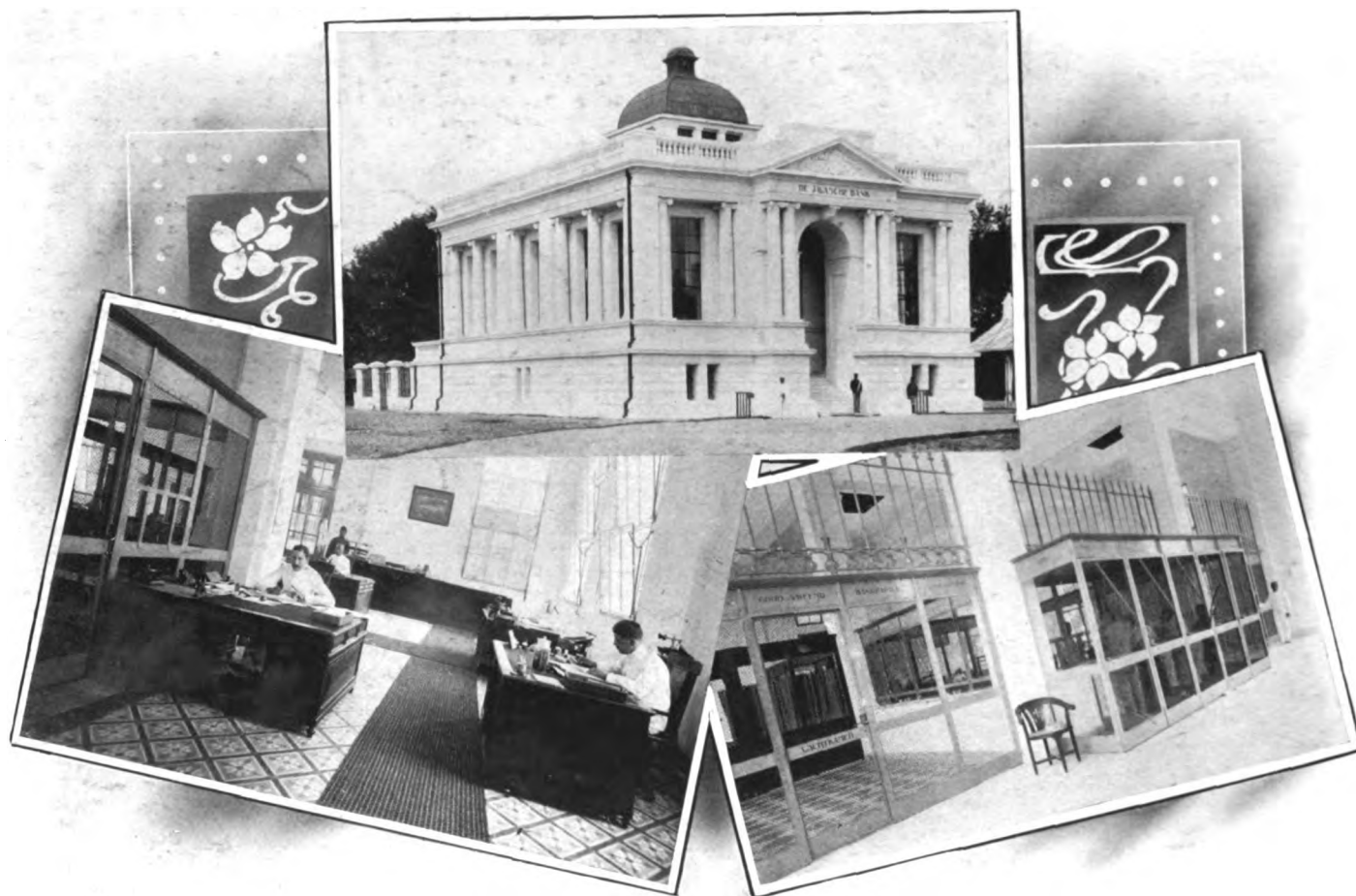
one. The drafts against exported produce are principally drawn on gold countries, and while it is always to be obtained, hardly any demand for gold occurs. The bank acts on behalf of the Government; its duty is to control the circulation of money in Netherlands India and to prevent violent fluctuations in the rate of exchange between Netherlands India, its neighbouring countries, and Europe. To effect this, De Javasche Bank is prepared to buy or sell drafts on foreign countries and foreign gold coin, and if necessary it will give gold or gold drafts at, or within, the parity of coin export in order to maintain the fixed value of the silver guilder.

The bank issues notes of 5, 10, 25, 50, 100, 200, 300, 500, and 1,000 guilders, all of which bear the signatures of the president and one

and to maintain the gold parity with them. Owing to this right of circulating and withdrawing from circulation bank notes without any restriction as to the amount, and without tax, simply on the condition of maintaining a currency coin reserve equal to 40 per cent. of that amount, De Javasche Bank has always been able to meet with ease all the financial changes in the East Indian Archipelago.

The bank grants advances on bonds and shares, merchandise, bills of lading, gold and silver coin and bullion, bills of exchange and promissory notes; buys and sells drafts and telegraphic transfers in foreign currency, discounts bills of exchange and promissory notes, and effects transfers either by telegraph or by letter between its branches in Netherlands India and in Amsterdam, collects

this obligatory figure, the bank held G. 27,448,832 in silver coins of Netherlands India and G. 10,300,000 in gold coins of the Mother Country and of foreign countries, for the greater part sovereigns, and G. 700,000 bullion. At the same time, the bank held a gold reserve in Amsterdam of G. 3,454,000 in loans on call, and of G. 22,100,000 in foreign bills payable in gold, all on first-class banks, for the greater part payable in London. The total coin and gold reserve of the bank, therefore, consisted at that date of about G. 63,000,000 in coin and in investments immediately payable in gold at first notice. The further assets of the bank consisted of about G. 21,000,000 loans and discounts and of nearly G. 8,000,000 first-class investments, exclusively in bonds as



DE JAVASCHE BANK, MEDAN (DELI).

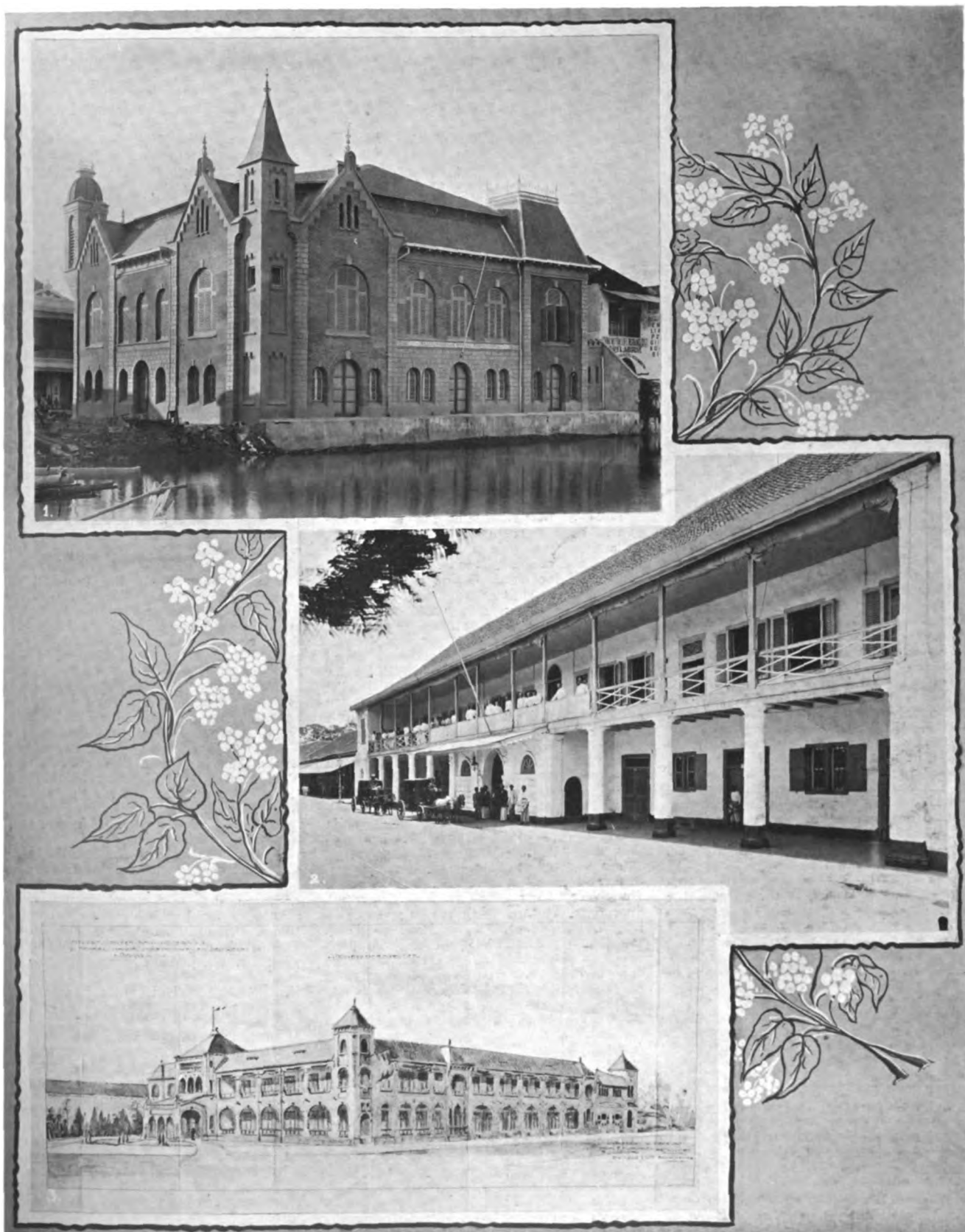
of the managing directors. No restriction is made as to the amount the bank may have in circulation at any time, nor is any tax whatsoever payable, but against the notes in circulation, the unpaid bank sight-drafts and sundry creditors, the bank is obliged at all times, to have a reserve of at least two-fifths, i.e., 40 per cent., in coin and bullion. Three-quarters of this obligatory reserve must be kept in Netherlands India, and at least half of it has to be Netherlands Indian legal currency. Apart from this metal reserve, the bank keeps a gold reserve in Europe in loans on call at Amsterdam, and bills of exchange payable in gold, in order to be, in any case, in a position to control the rate of exchange with foreign countries

drafts, receipts, and drawn bonds, and superintends investments and securities. It is also prepared to receive securities and valuables for safe custody, and generally conducts all the usual banking business.

The capital of the bank has been fixed at G. 6,000,000, and last year the surplus reserve fund was raised to G. 2,000,000. The amount of notes issued has varied during recent years from 61 to 71 million guilders. According to the weekly return of November 25, 1908, the bank notes issued amounted to G. 70,670,750, while sundry creditors represented another G. 14,550,988. Consequently, the bank had to keep in its vaults a metal reserve of 40 per cent. of these amounts, viz.: G. 34,088,695. Against

investment of capital and surplus reserve fund. The reserve fund consisting of undivided profits, and also the capital of the bank, are separately invested in gilt-edged securities approved by the board of directors, or, up to a small amount, in mortgages.

The net profits of the bank in 1908 were G. 1,920,000. The Government, as stated, take a large part of this sum, but notwithstanding this, and despite the fact that last year considerable amounts were written off on account of buildings, &c., the shareholders received the very satisfactory dividend of 14 per cent. The dividends of the last five years have been 9½, 9, 9½, 11, and 14 per cent.



NEDERLANDSCHE HANDEL MAATSCHAPPIJ.
(Netherlands Trading Society).

1. BRANCH AT SOERABAYA.

2. HEAD OFFICE, BATAVIA.

3. PLAN OF NEW PREMISES, SEMARANG.

The head office of the bank is in Batavia, and there are branches in—

Java : Cheribon, Semarang, Sourabaya, Djoejakarta, Solo ;
Sumatra : Padang, Medan, Tandjong Poera, Tandjong Balei, Bengkalis ;
Borneo : Bandjermasin, Pontianak ;
Celebes : Macassar ;

whilst within a short time three new agencies will be opened in Palembang (Sumatra), Muntok (Banca), and Bandoeng (Java). The bank also has its own office (Bykantoor) in Amsterdam, which, under the control of the head office, has charge of the European business.

The management of the bank is in the hands of a president and two managing directors, controlled by a board of five directors and one special delegate nominated by the Government. The president and the managing directors are nominated by H.E. the Governor-General. In the case of the president, however, the nomination has to be approved by H.M. the Queen.

Mr. G. Vissering, who now occupies the important and responsible position of president of the bank, was born in Leyden, in 1865. He took his degree as Doctor of Law at the university of Leyden, and practised as a lawyer in Amsterdam from 1891 to 1906. From 1895 to 1897, he carried out the duties of secretary to the committee of the Amsterdam Exchange ; from 1897 to 1900 he was co-manager of the Kasvereniging (Amsterdam), and from 1900 to 1906 co-manager of the Amsterdamsche Bank. He obtained his present post by royal appointment in 1906.

The director, Mr. E. A. Zeilinga, Azn, was born in Friesland, in 1864. Having studied finance in Holland, especially on the Exchange of Amsterdam, he came to Netherlands India. First he was in the service of the Netherlands Trading Society, in Sourabaya, Singapore, Penang, Rangoon, and Batavia. He became co-manager of the Netherlands Indian Discount Company, in Batavia, in 1902, and was appointed director of the Javasche Bank in 1907.

The director-secretary, Mr. J. Gerritzen, Doctor of Law, was born in Sourabaya, in 1869. He graduated at the university of Leyden, and practised as a lawyer in Batavia from 1892 to 1908, when he was given his present appointment.

De Javasche Bank in Medan, a photograph of which is reproduced, is the type of the modern bank building which the directors intend to erect in Macassar and Solo. It is most probable, too, that this general style of architecture will be followed in the construction of all the bank's offices in future. In front, the building has a high and stately portico, which gives it a fine appearance, but the entrance is purposely made narrow to prevent malefactors entering, or, in case theft should be discovered, to render escape difficult. The building inside is not separated by walls into rooms. The different departments are divided by wire netting in iron frames, so that the agent is able to survey the whole office. The cash department is closed in on four sides, by a cage of wire netting, so that the cashiers are thoroughly protected against sudden attack. Cages of wire netting in front of the cashiers protect people, who come to fetch or pay money, against theft whilst they are busy at the pigeon-hole, it being possible to open the doors of these cages only from the inside. Moreover, all the employés in the office are placed with their faces turned to the cash department, so that it is continually watched from all quarters, and the chances of robbery reduced to a minimum.

NEDERLANDSCHE HANDEL MAATSCHAPPIJ

(Netherlands Trading Society).

A SUGGESTION from King William I. was in the main responsible for the formation of the Netherlands Trading Society in 1824. His Majesty was keenly anxious to foster as carefully as possible the trade between Holland and her colonies, and, following upon his advice, it was for this express purpose that the Company was organised. The fine record of commercial and financial activity upon which the Society can now look back shows how completely the objects of its promoters have been realised. During the past ninety years the Company has extended its operations to nearly every part of the world, but naturally it has always concentrated its chief attention on the trade of the Netherlands India and in the development of the resources and industries of Java, Sumatra, and the neighbouring islands, the good results of its influence and enterprise have been strikingly manifest.

The character of the Society's business has undergone considerable change during the course of years. Now, although it still owns a good many sugar factories, it is principally a financial institution carrying on a large general banking business. In the early days, its activities were of a purely commercial nature. Trading stations were opened throughout the Dutch Indies, and the Company, from the beginning, acted as agents for the Government, exporting and selling all the products from the many Government factories. As soon as the tobacco plantations in Sumatra had been sufficiently developed the Society opened a branch in Deli for the convenience of the planters, and, in the absence of a sufficient quantity of Dutch money, issued its own dollar notes. These notes circulated freely, and proved of the greatest advantage to trade generally. They were withdrawn only when the Government itself supplied the deficiency of Dutch money. The Society started its banking business in 1882.

The present capital of the Company is G. 60,000,000, of which G. 45,000,000 has been paid up. The reserve fund is G. 5,378,375. The Company's head offices are at Amsterdam, and branches have been established at Hongkong, Shanghai, Rangoon, Semarang, Sourabaya, Padang, Cheribon, Tegal, Pekalongan, Pasoeroean, Tjilatjap, Medan (Deli), Palembang, Kota Radja (Achim), Bandjermasin, Penang, and Singapore, while there are correspondents of the Company in many other trading centres. The whole Eastern business is supervised from Batavia, where the Society's Eastern headquarters are situated.

Mr. S. E. Toens is the president of the Company at Batavia ; Mr. A. F. Marmelstein and E. D. van Walree the directors, while Mr. G. J. Houtsma carries out the duties of secretary.

The Medan branch of the bank was opened in 1888 by Mr. C. Cruijs. The present manager is Mr. M. J. Lusink. He has held this position for about a year, and is assisted by a European staff comprising Messrs. J. M. Soeters, accountant ; N. A. Onnes and P. R. Zeeman, assistants ; E. G. Wiebenga, book-keeper ; and four clerks. In addition, the bank employs five Chinese cashiers and five Chinese clerks. The offices are situated in Cremer Road, facing the Esplanade. This road is named after the former head administrator of "the Deli Maatschappij," who is now the president of the Netherlands Trading Society in Amsterdam.

NEDERLANDSCH INDISCHE HANDELSBANK.

It is nearly fifty years since the Nederlandsch Indische Handelsbank, or the Netherlands India Commercial Bank, was established. Its object was to conduct a general banking business in Sumatra, Java, and the neighbouring islands, and to offer every possible facility for carrying through the many financial transactions which are continually taking place between Holland and her East Indian possessions. The successful way in which these objects have been realised may be judged from the volume of business controlled by the bank and from the number and importance of its agencies, which are to be found in Singapore, Hongkong, and scattered over all parts of Netherlands India.

The bank has a subscribed capital of G. 15,000,000, equal to £1,250,000, of which sum G. 12,500,000 has been paid up. The reserve funds amount to G. 2,250,000, equal to £187,500. The head office is at Amsterdam. There is a sub-office at The Hague ; branches in Batavia, Sourabaya, Semarang, Indramajoe, and Bandoeng ; agencies in Singapore and Hongkong, and correspondents at Cheribon, Tegal, Pekalongan, Pasoeroean, Probolinggo, Tjilatjap, Macassar, Padang, and Medan. The bank grants drafts upon and negotiates or collects bills at any of its branches or agencies ; issues letters of credit for the use of travellers which are negotiable in all the principal cities of Europe, Africa, Asia, America, and Australia ; receives deposits for fixed periods at rates which can be ascertained on application ; opens current accounts for the convenience of its constituents, and, in short, transacts all the ordinary routine banking business. The Company's foreign bankers are—in England : William Deacon's Bank and Swiss Bankverein ; Netherlands : Messrs. Hope & Co. ; France : Comptoir National d'Escompte de Paris ; Germany : Deutsche Bank ; Austria : Union Bank ; U.S.A. : Bank of Montreal ; British India : National Bank of India, Ltd. ; and Australasia : Union Bank of Australia, Ltd.

In Netherlands India the headquarters of the bank are, of course, located in the capital, Batavia, and in order to facilitate the business conducted here, a sub-office has been opened in the district of Weltevreden. Mr. J. F. der Kinderen, the head agent in Batavia, has charge of the bank's interests in the Dutch Indies, British India, China, and Australia. During his absence, the responsibility falls upon Mr. Th. J. Azon Jacometti, Azn.

NEDERLANDSCH INDISCHE ESCOMPTO MAATSCHAPPIJ.

DURING the fifty-one years it has been in existence this bank has paid an average dividend of between 7½ and 8 per cent. per annum to its shareholders. Surely no further evidence as to its stability or prosperity is required. The capital of the Company is Fl. 12,000,000, of which Fl. 7,500,000 has been fully paid up. The reserve funds amount to Fl. 1,000,000. The bank buys and sells and receives for collection bills of exchange ; issues letters of credit on its branches and correspondents in the East, on the Continent, in Great Britain, America, and Australia ; and generally transacts all kinds of banking and financial business.

The head offices of the bank are in Batavia, where the Company was founded. Its home business is transacted by its Amsterdam agency at 104 6, Singel, Amsterdam, while its London agents are Parr's Bank, Ltd.

Other agencies of the bank are located at Sourabaya, Semarang, Cheribon, Bandoeng, Weltevreden, Tandjong Priok, Padang, and Penang, and it has correspondents at Banda, Bencoolen, Blitar, Buitenzorg, Djoejakarta, Indramajoe, Kediri, Macassar, Madioen, Magelang, Malang, Medan, Menado, Pasoe-roean, Pekalongan, Pontianak, Probolinggo, Samarinda, Solo, Tegal, Ternate, Tjilatjap, and Singapore.

Messrs. J. Dinger, P. J. Stephan, and F. Meyjes are the managing directors of the Company.

HONGKONG AND SHANGHAI BANKING CORPORATION.

THE Hongkong and Shanghai Banking Corporation opened their branch in Batavia in 1884. About ten years later a second branch was established in Sourabaya, and at different intervals agents have been appointed to

India is Mr. M. C. Kirkpatrick, who has been associated with banking business in the East for thirty-one years, and with the Hongkong and Shanghai Bank in Batavia for no less than twenty-two years. Born in Scotland in 1853, and educated at Christ's Hospital, Mr. Kirkpatrick gained his first experience of banking in Lombard Street. In 1874 he joined the old Oriental Bank. Four years later he was attached to the Singapore branch, and remained in their service in the Straits Settlements until the bank ceased business. He joined the Hongkong and Shanghai Bank in 1884, and was appointed to his present position in 1887.

CHARTERED BANK OF INDIA, AUSTRALIA, AND CHINA.

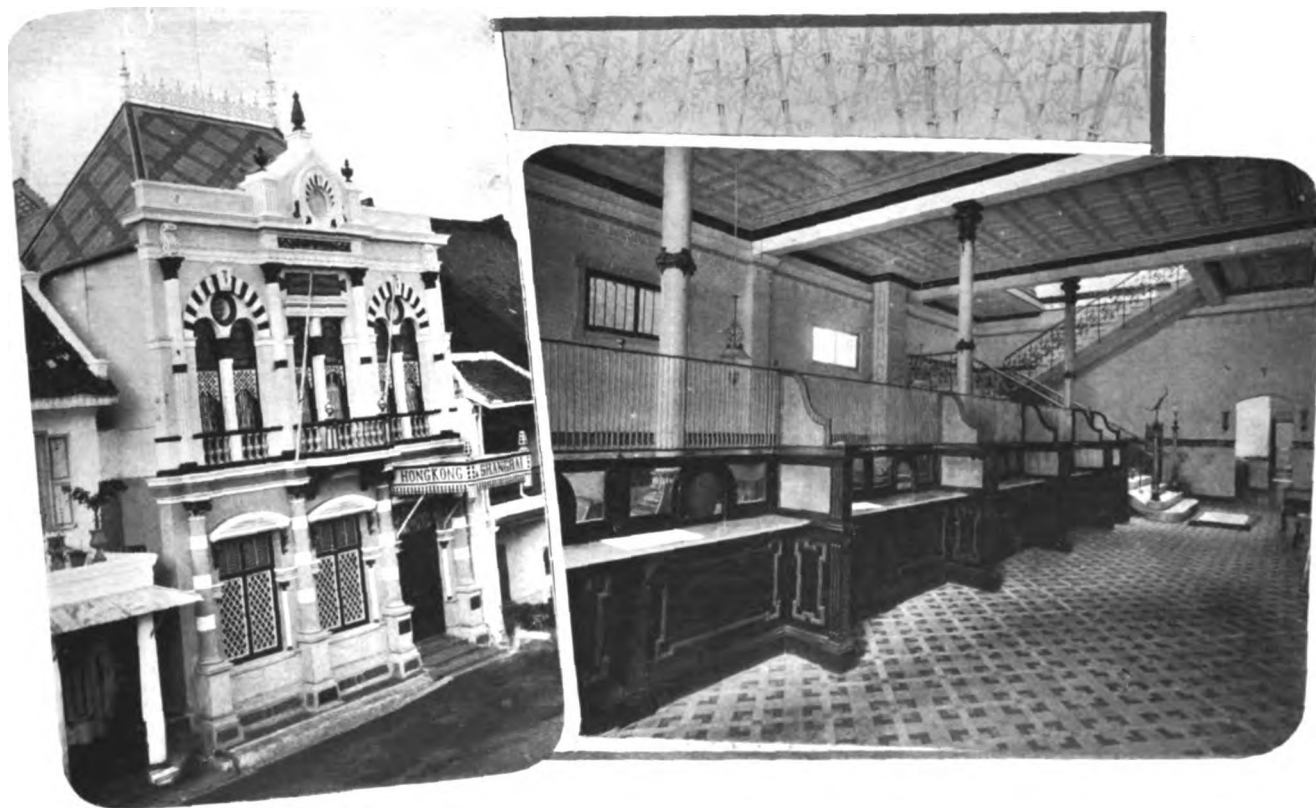
A BRANCH of this well-known financial house has been in existence in Batavia for nearly fifty years. Throughout the whole of this

large trading centres of the East and Far East, and, in order to facilitate business, correspondents to the bank have been appointed in Australia, in the United States of America, Canada, and in Africa.

The branch in Batavia is the headquarters of the bank's business in the Dutch East Indies, and here, Mr. J. F. Beddy, who has been associated with the Chartered Bank in many Eastern towns during the last twenty years, is in charge. The bank has another branch in Sourabaya, and agents in Cheribon, Semarang, Padang, Medan, Macassar, and Menado.

VAN HEUSDEN & MEES.

THIS firm of private bankers was established in Batavia in September, 1807, by Messrs. W. van Heusden and R. Tj. Mees. Mr. Van Heusden, for many years previously, had been associated with banking business in the city, and is probably one of the oldest



HONGKONG AND SHANGHAI BANK, SOURABAYA.

represent the bank's interests at Semarang, Cheribon, and other important centres. In Sourabaya the Corporation have erected for themselves a handsome new building, forming undoubtedly one of the finest sets of offices in the city, but the Batavia branch, situated in the Kali Besar, has always been, and still remains, the headquarters of the bank for Netherlands India. The bank employ the usual staff of assistants, including several Europeans and a number of Chinese, and, besides carrying out all the ordinary routine banking business, take a very important share in financing large industrial and commercial enterprises in the Dutch Possessions.

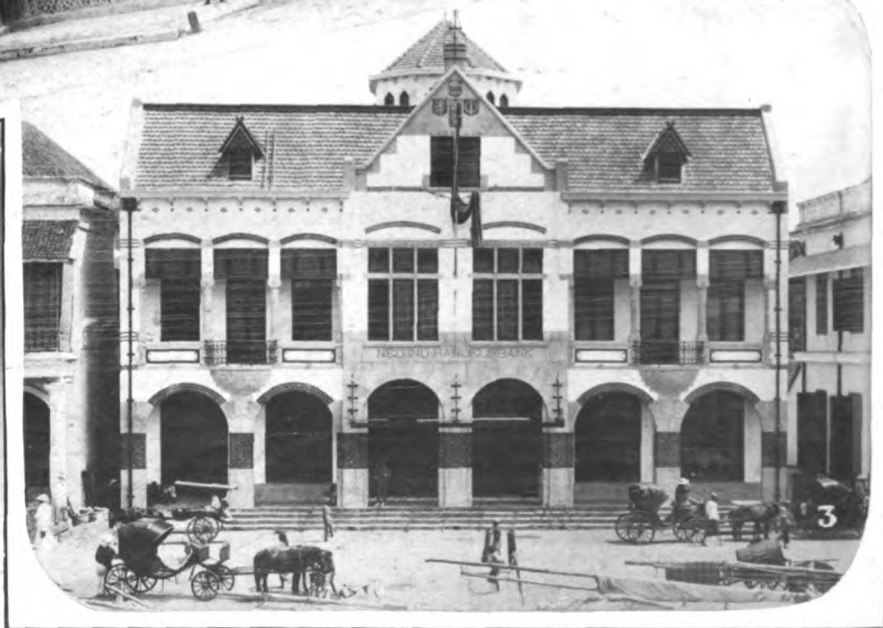
The bank's head agent for Netherlands

time its operations have been gradually extending, until now it carries on an important and extensive business throughout all parts of Netherlands India, its high reputation and the commanding position it enjoys in different parts of the world, and more especially in the East, combined with its long record of activity in Java, giving it a recognised and an undoubted influence in the country.

The paid-up capital of the bank amounts to £1,200,000. The shareholders are still responsible for another £1,200,000, while the reserve funds amount to £1,525,000. The head offices of the Corporation are in Bishopsgate Street Within, London. Branches have been established in all the

bankers in Java. For twenty years he held the position of procurator holder for the Nederlandsch Indische Handelsbank, and has been engaged in financial enterprises in the Indies, altogether, for over thirty-three years.

The firm, which has large business connections with Europe and correspondents in all the most important cities, carries on all classes of private banking business, accepting deposits, issuing drafts, and generally operating in shares and properties of all descriptions, both local and European. Mr. Van Heusden, who is now the sole manager of the firm, Mr. Mees having retired during the present year, is Vice-Consul for Italy in Batavia.



NEDERLANDSCH-INDISCHE HANDELSBANK.

1. HEAD OFFICE, BATAVIA.

2. SEMARANG BRANCH.

3. SOURABAYA BRANCH.



NEDERLANDSCH-INDISCHE ESCOMPTO-MAATSCHAPPIJ.

1. FRONT VIEW OF HEAD OFFICE AT BATAVIA.

2. BACK VIEW OF BATAVIA OFFICES.

3. BRANCH OFFICE AT BANTOEN.

THE KOLONIALE BANK.

THIS important financial house was established in 1881. Its head office is in Amsterdam, while its chief agency is at Sourabaya, the other agencies in Netherlands India being at Semarang and Batavia. The capital of the Company is Fl. 10,000,000, of which Fl. 6,250,000 is fully paid up, while, on December 1, 1908, debentures represented Fl. 2,700,000.

The interests of the firm are very extensive throughout the Dutch Indies. The chief agency controls eleven sugar mills, seventeen coffee estates, besides numerous cinchona, cocoa, and rubber estates. The sugar mills under its control are as follows:—

Pradjekan and Tangarang, Besoeke Residency.

Gending and Maron, Pasoeroean Residency.

Sedatie and Seloredjo, Sourabaya Residency.

Kanigoro, Madioen Residency.

The coffee estates are :

Bajoeloe, Pesoeijen, and *Silosanen, Besoeke Residency.

Ayer Dingin, *Donowarie, *Gledagan Pantjoer, *Ngredjo, Soepit Oerang, *Telogoredjo, Tempoer Sewoe, Tretes Pangoeng, *Wonosarie, and Segoenoen, Pasoeroean Residency.

*Ngrangkah and Pidjie Ombob, Kediri Residency.

Pager Alam, Soeban Ajam, Palembang, and Bencoolen, Sumatra.

The other estates include :

Kayoe Enak (coffee and bark (cinchona) estate), in the Pasoeroean Residency.

Rini (coffee, cocoa, coca, and rubber estate), in the Kediri Residency.

Pajoeng (bark (cinchona) estate), in the Cheribon Residency.

Djaboeng (cocoa, rubber, coca, and kola estate), in the Kediri Residency.

Batoe Lawang and Binangoen, rubber estates in the Preanger Regentschappen.

* On these estates rubber also has now been planted.

The Semarang agency, which was also established in 1881, controls the following :—

Sugar estates :

Randoe-Goenting Tjandi-Sewoe, Gondang-Lipoero, and Medarie, in the Djoejakarta Residency.

Wonosarie, in the Soerakarta Residency.

Other estates :

Ngares Kopen (tobacco, indigo, coffee, &c.), in the Soerakarta Residency.

Djati Roenggo (cocoa, nutmegs, mace, Liberian coffee, kapok, rubber, &c.), in the Semarang Residency.

Sido Redjo (cocoa, nutmegs, mace, Liberian coffee, kapok, rubber, &c.), in the Semarang Residency.

Panggoeng (cocoa, nutmegs, mace, Liberian coffee, kapok, and rubber), in the Semarang Residency.

Soekamadjo, Djajanegara, Passir Randoe, and Passir Langkob (tea, coca, cinchona, kapok, &c.), in the Preanger Regentschappen Residency.



FRIEZE DECORATION OF BASEMENT, CHANDI MENDUT.



SCULPTURE OF THE FIRST GALLERY, BÔRÔ-BUDUR.

ARCHÆOLOGY.

PRE-ISLAMIC ANTIQUITIES OF WESTERN JAVA.

BY C. M. PLEYTE, Lecturer on Ethnology, Geography, and History, Batavia.



THE earliest traces of mankind in Western Java are found on the sides of a couple of rocks of which one is situated on the southern seashore near the small river Karang-bolong, in the assistant residency, Soekaboemi, and the other on the very steep side of the river Jolang, beyond the village Chi-tapèn, in the residency of Chi-rebon. Rough carvings of human beings, similar to those discovered in caves elsewhere on our globe, seem to indicate that the hollow bases of these huge masses were a shelter to men in early times. Besides, stone axes, some of a very peculiar shape made of flint and other glassy chaledonia, discovered whilst cutting down the woods and cultivating the fields, are an unquestionable proof of a former culture, and clearly show that Java also once had its so-called stone age. Splendid specimens, giving a high idea of the skill of the primitive Sundanese, and exciting special interest by their brilliant polish, were, for instance, found in the Préanger Regencies.

As civilisation gradually advanced, the weapons and articles for domestic use, which had formerly been roughly hewn out of stone, were cast in bronze. There are many indications that this art was generally known and practised by the people of the following period. The four bronze hatchets reproduced were found in the residencies of Batavia, the Préanger Regencies, and Chi-rebon. Nothing, however, is known about the manner in which the men of those remote ages lived, for no "kjökenmöddings" nor other traces of former dwelling places have yet been discovered. The only sign of setting and settlements are the so-called

"kabuyutan," sacred spots, adorned with clumsy stone statuettes of men and animals, but of these many were erected during comparatively recent years. One has been found bearing the date 1263 Saka, which corresponds to 1341 A.D. In reality, therefore,



THE GODDESS DURGA.

it may be said that scarcely anything is known about Sunda's most ancient history. Indeed, the four monoliths, bearing inscriptions in Sanscrit, glorifying King Purnawar-

man, which have been found in the residency of Batavia, are the earliest evidences of any foreign invasion. The inscriptions were deciphered by Professor Kern, the well-known Dutch authority upon all such matters as these, and from the similarity of the characters to those used about 400 A.D. in Wenggi, on the coast of Coromandel, he came to the conclusion that Purnawarman ruled over these countries in the fifth century. Moreover, Professor Kern was able to show that the King and his followers were Vaishnavas, *i.e.*, they adored Vishnu as the supreme god. Unfortunately, in the inscription there is no single word about the extension of Purnawarman's realm.

No relic of any sort has been discovered that throws light upon the civilisation of the succeeding five centuries. The next stage is marked by the stone found in the neighbourhood of Soekaboemi, which bears the date Saka 952 (A.D. 1030), and speaks of a Maharaja Sunda, Upper King of Sunda. The language of this inscription is also Sanscrit. In the year 1333 Saka (A.D. 1411), we hear of the foundation of a sanctuary for a goddess which was, or had to be, erected on Mount Geger Hanjuang, a little to the north from Singa-parua, Préanger Regencies. It is not stated which deity was to be honoured, but probably it was Durga, a very fine stone effigy of whom, found in the environs of Chi-chalengkka, has been placed in the Batavia museum.

Hinduism, *i.e.*, Sivaism, made its entry into the Pasundan, but whether it ever became popular is rather doubtful, as not more than about half a score of images belonging to the Sivatic pantheon have been discovered, whilst such temples and monasteries as

abound in Middle and Eastern Java are sought for in vain. It is fair to conclude, therefore, that while a few of the native princes did perhaps adopt the foreign religion, the bulk of the population remained true to their original creed founded on animism and ancestor worship. This explanation seems all the more acceptable as there are only two places in Western Java where more or less complete sets of Hindu deities are met with. They are found at the foot of Mount Gulasari, in the centre of the residency of Bantën and near Chi-chalengka in the eastern part of the Préanger Regencies. It is unlikely that these native princes were powerful rulers. Their dominions seem to have corresponded with what are now the regencies of Java. Indeed, some of the

present day chiefs of these territories can trace their descent back to the old-time kings. One ruler, however, did gradually gain great influence, and either subdued the smaller principedoms entirely or forced them to acknowledge his suzerainty. The name of the successful and aggressive prince was Sri Sang Ratu Devata. It may be read quite clearly on the stone erected to commemorate the foundation of his kingdom, a photograph of which is reproduced. Unfortunately it is impossible to decipher the date of his reign. His kingdom was Pajajaran, and the capital, Pakuan, was situated a little to the south of Buitenzorg, *i.e.*, Batutulis. Pajajaran was ultimately overwhelmed by the Mahomedans, but the exact date of the downfall of the kingdom is not certain.

History tells us that it was destroyed by Pangéran Yusuf, the son of Maulana Hasanuddin, the first Mahomedan ruler over Bantën. As Pangéran Yusuf succeeded his father in 1580 A.D., he must have completed his conquest before that date, perhaps in 1575.

The fall of Pajajaran announced the close of the old and the dawn of the new era. Since then Mahomedanism has extended its influence more and more over the Pasundan. Old associations were quickly destroyed, and save for the few relics unearthed here and there, to which brief mention has been made, there are now no links to bind up the present with the ages that are past.

HINDU MONUMENTAL ART IN CENTRAL JAVA.

BY T. VAN ERP, Captain Engineer, charged with the Restoration of Borô-Budur.

INDIAN art is but slenderly connected with general art history. A similar dictum may be advanced in regard to the art of the Hindus in Java, which is nothing more than an offshoot of the artistic utterances of Old India—a strong offshoot however, which took root in an exceedingly fertile soil and developed into a wonder-plant.

It is, indeed, a wonder-plant, for Hindu art in Java gradually accepted forms sometimes nobler than those of British India, and resulted here and there in expression whose likeness is looked for in vain in the country of its origin. The study of its architecture is of much interest to science, for Hindu art was essentially religious. Profane buildings from that old period do not exist any more, because they were built of temporary material. So the temples are the only witnesses of the artistic power and expression of the civilised Hindus, and will help to form, together with literature and inscriptions, the basis of Java's ancient history. Its æsthetic qualities have not yet been fully appreciated. We Western people are somewhat strange to these totally different orders, forms and details, and knowledge and study are necessary for true appreciation. Nevertheless, we believe they will be valued very highly when better known, and then the following words of Fergusson on Indian architecture will apply with equal force and truth to the antiquities of Java:—

"It will undoubtedly be conceded by those who are familiar with the subject that for certain qualities the Indian buildings are unrivalled. They display an exuberance of fancy, a lavishness of labour, and an elaboration of detail to be found nowhere else."

The present article on the monumental art of Central Java must be very incomplete. As a matter of fact the material is far too extensive to be treated exhaustively in the space at our disposal. Moreover, the information for a comparative study of the buildings is scarce. The rough material gathered since the arrival of the Dutch in Java forms, all in all, a big book; but the greater portion of the old reports is of little value, for many of the descriptions do not have their complement in the form of necessary illustration, and where, accidentally, we find old drawings, these are not satisfying and a clear text is missing.

All honour to Raffles, who, in his standard work, "The History of Java," first gave the world knowledge of some of the principal antiquities. It is a pity, however, that he did not mention the names of the Dutch co-operators who provided him with the data for his work. The name of Lieutenant Engineer Cornelius, who, under Raffles, uncovered the Borô-Budur temple and made the first drawings and description also of the Chandi Sewu, is found only in a short footnote on one of the pages of Raffles' meritorious work.



STATUETTE FROM CHI-KAPUNDUNG,
PRÉANGER REGENCIES.
(DATED 1263 SAKA.)

In general, it might be said that until now the ruins have been studied more from a scientific than an æsthetic point of view. Next to Friederich, Cohen Stuart, Van der Tuuk, and Holle, the Sanscrit scholar, Professor Kern, occupies a prominent place. Besides Professor Kern, the late Dr. Brandes must be mentioned. He was the founder of the Society for Archaeological Research in Java and Madura, and, unfortunately, died too

early. In 1878, the sinologue Groënveldt published an excellent and systematic description of the antiquities in the Batavia museum. It is to be regretted that it was not illustrated. In 1885, the railway engineer Yzerman, together with Dr. Groneman, founded an archaeological society at Djocjakarta, which afterwards undertook the excavation and examination of the Prambanan temples. Yzerman himself published, in 1891, a masterly description of the ruins of Prambanan. In a richly illustrated work (published in 1893), Dr. Groneman describes the Chandi Prambanan after the excavation. We also owe much to the mining engineer Verbeek, who made the first archaeological map of Java, and published in 1891 a very complete list of ruins. His statements about Hindu literature are of much value. Thanks to the great erudition of Mr. Rouffaer, the historical data were systematised, and he added shrewd observations on the artistic value of the monuments. Part of this introduction is taken from his article on "Art" in the "Encyclopædia of Netherlands India." Eventually, Professor Veth arranged the features in his standard work, "Java," into a concise description of the principal antiquities of Central and Eastern Java. Others who have contributed interesting material on these antiquities will be mentioned with the description of the different objects.

To give readers an idea of Hindu art in Java, a map is given on page 139 showing the principal monuments or groups. It was made after Verbeek's map, and the shaded parts indicate the places where ruins, sanctuaries, statuettes, and other relics are especially interesting. A single glance suffices to show where historical remains are to be found in Western Java. There are no real chandis. The word "chandi" (or tjandi, as it is sometimes rendered) means "the stones covering the ashes of burnt corpses," from which came the Javanese belief that the old temples were mausolea, as, indeed, was often the case.

The temples are most numerous in Central and Eastern Java. They extend, so far as the first part is concerned, in a broad circle, commencing with the Diëng Plateau and embracing the eastern portion of the residency of Bagelen, Kedu, the adjacent districts of Semarang, northern Djocjakarta, and the western corner of Soerakarta.

Verbeek gives a list of 225 ruins in Central Java. Many others have since been discovered, and it may be stated that there are upwards of six hundred separate monuments, which gives some idea not only of the high spiritual life of the early inhabitants of Java, but of the welfare that must have been there to develop such a creative power.

In Java, we have to deal with two strong currents of Hindu religious belief: Hinduism and Buddhism. The former was manifested chiefly in Central Java in the form of Sivaism, while the remains in the form of footprints in stone in Western Java betray the cult of Vishnu. In Central Java, Sivaism predominates. Where in large collections, like the Chandi Prambanan, both the other gods of the trimurti—Vishnu and Brahma—appear, still Siva takes the place of honour. The principal temple is always dedicated to him, his wife Durga, and their son Ganesa.

the image of the "Tathagata," the god-man of the East.

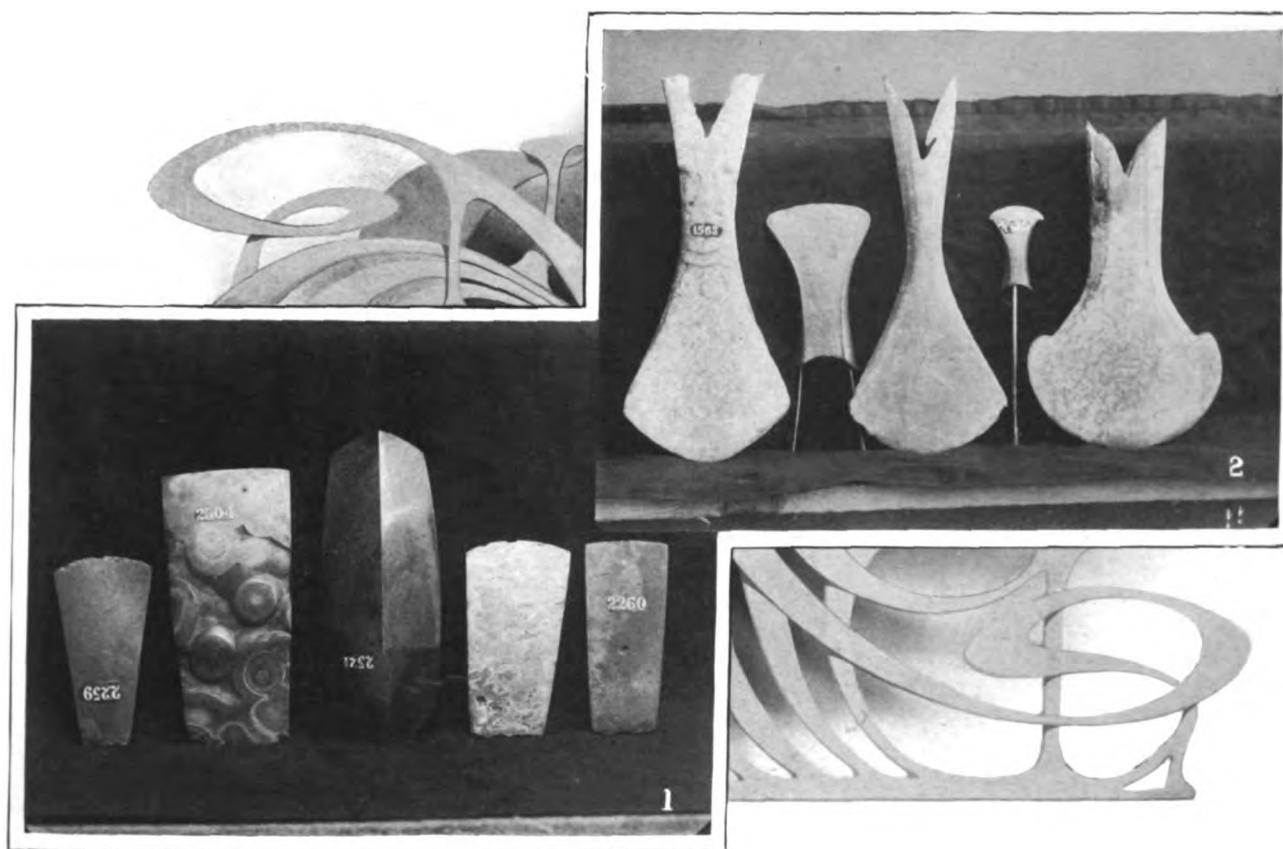
The beautiful Indo-Arian type of Buddhas and Bodhisattvas breathe a serene and meditative tranquillity, and is pleasant in comparison with the often ugly plastic of the Sivaïtes, in which the stiffening breath of a severe canon creates images with many arms and many heads, painfully overlaid with the typical attributes. As regards the outer building forms, Buddhist art brings some beautiful new motives. Strong characteristic differences are looked for in vain, however, in the ruins of Sivaïtic and Buddhist origin.

Some dates must be mentioned. Many people have an exaggerated idea of the age of the Java ruins. The inscriptions, indeed, show that the Central Javanese artistic period runs from A.D. 730-930. A fixed development is not to be observed in architecture.

centre of Java, the enchanted garden of the Indian Archipelago.

It must be mentioned also that the oldest buildings are characteristic by reason of the purity of the faith of the architects. The Chandi Kalasan is pure Buddhist, and the somewhat older temples of the Diëng Plateau have a decidedly Sivaïtic cachet. How long that purity lasts cannot be said with certainty, but probably about the middle of the ninth century appears the syncretism which is so pronounced as a feature of the younger Central Javanese period, and even is normal for that of Eastern Java. About this syncretism Yzerman says the following in his "Beschrijving der Oudheden op de Grens der Residenties Soerakarta en Jogjakarta":—

"With a pliability that does not occur often with priests who strive after tyranny and display more political sense than religious zeal, the Brahmans, in course of time,



1. BRONZE HATCHETS FROM WESTERN JAVA.

2. STONE AXES FROM THE PRÊANGER REGENCIES.

Although many Sivaïtic buildings are extraordinarily beautiful in architectural design and rich in outer adornment, their interiors are less attractive, for in the smaller monuments the supreme divinity is honoured in the form of a linggam, the symbol of procreative power. Happily, the religious sense was a warrant for a chaste representation. Nothing, indeed, arouses aversion in that simple round or octagonal pillar. But how inferior appears to us that linggam-cella compared with the shrine of the Buddhist temples! "It is," says Mr. Rouffaer, "as if Buddhism leads us into another and better world." The plastic is growing nobler with

Still, some budding forms and details are characteristic for older and younger edifices, and lithic techniques show traces of evolution and perfection.

We need not wonder that a sharp line of development cannot be traced, simply because all was done in the comparatively brief period of two centuries. In this connection, the fact is surprising that one of the oldest and first creations of the Buddhists (Chandi Kalasan, A.D. 778) reveals their utmost ability. In spite of its state of decay, this temple is still one of the most brilliant utterances of the pensive genial mind of the people, who, eleven centuries ago, lived in the charming

yielded to the ideas of the different peoples they had under their religious protection. When only their faith was assured they were all meekness in regard to the religious opinions of the layman. Their spiritual Brahma was left to have a new creation; a personal god Brahma took the place of honour next Vishnu and Siva, the re-born Surya and Budra of the Vedas.

"Now they took possession of the person of Buddha. Buddha, the ninth incarnation of Vishnu, that was the final word of reconciliation for those who honoured this kind god as the chief of the Brahmanical Trimurti. A prince who leaves the luxury and pleasures

of his father's court to devote his life to the deliverance of mankind is of the same kind as a god, at all times willing to descend and bring salvation whenever injustice prevails on earth.

"Not only the Vishnuites but also the Sivaites approach the Buddhists. The original

of the Brahmans he quite changed his character.

"The destroyer and deliverer 'Mahakala' saw other milder forms arise beside him. The deliverer was at the same time the creator; the destroyer also creative and repairing power. Having grown charitable

sented mostly as such symbolically by the linggam and his sakti by the yoni.

"Another form of the god as 'Mahayogi' represents him as a naked penitent, covered with ashes, by his example preacher of the Yoga philosophy.

"This form resembles in many respects



1. STONE AT BATU TULIS IN COMMEMORATION OF THE FOUNDING OF PAKUAN PAJAJARAN.

2. INSCRIBED STONE CONSECRATED TO KING PURNAWARMAN LYING IN THE CHI-ARUTEUN.

4. ROCK ENGRAVINGS NEAR CHI-TAPEN.

3. STONE CONSECRATED TO THE MAHARAJA SUNDA FROM CHI-CHATIH, SOEKABOEMI.

5. STONE FROM THE GEGER HANJUANG.

form of Siva, the divinity of destruction, half man, half woman, afterwards separated in two persons, and with his sakti Durga conjured by bloody sacrifices, had nothing in common with the meek teacher. But under the hands

instead of dreadful, he was ready to arise as 'Mahadewa,' the supreme god, at the head of the Trimurti for those people who, more sensible to fear than to love, adhered to him above Vishnu. Afterwards, he was repre-

another with which Siva, also an ascetic, takes the place of Buddha. Mr. Monier Williams more than once found in his travels through India that statues which undoubtedly formerly represented Buddha now served as

Siva. It is this form of Siva worship—the mighty god embodied into the ascetic and the penitent—which, in the plain of Prambanan, has come to the front. Even the principal statue of Loro Djongrang (Durga) has the rosary and the water bottle.

"The later Hinduism identified Siva with Awalokiteswara or Padmapani, the principal Bodhisatva of the Mahayana.

"So there still is a small but richly endowed temple of great age, the most popular one of the whole country, near the northern end of Thandi Kell, in Nepal. It is called the Temple of Mehenkal, by which name the Hindus adore Mahadewa or Siva, while the Buddhists pretend that the holy statue represents Padmapani, which is proved by the small stone figure of Amitaba in the makuta.

"Similar common worship of the same image probably also occurred in Java."

So we see how Sivaite and Buddhists showed envy only to surpass each other in erecting beautiful buildings. Curious is the fact that enormous aggregations of one faith almost border upon those of the other. The Buddhist Chandi Sewu, which contains a total number of 246 buildings, is situated about 600 metres from the outer wall of the im-

indifference. Quietly, the roots of trees and shrubs took possession of the joints in temple walls and spires; with irresistible force, they were torn from each other, and prepared to succumb under the influence of new earthquakes. But still more than by the unchained forces of nature the masterpieces of the Hindus suffered by human hands. Soon the hewn stones of roofs and walls were considered good material for bridges and floodgates, for foundations of houses, for tombstones. The images, before which knees no longer were bent respectfully, became fit adornments for private residences. So, slowly but surely, those proud works of art were pulled down and made unrecognisable. Of many, scarcely the foundations remained, and even these are nowadays rooted up and broken down by the degenerated offspring."

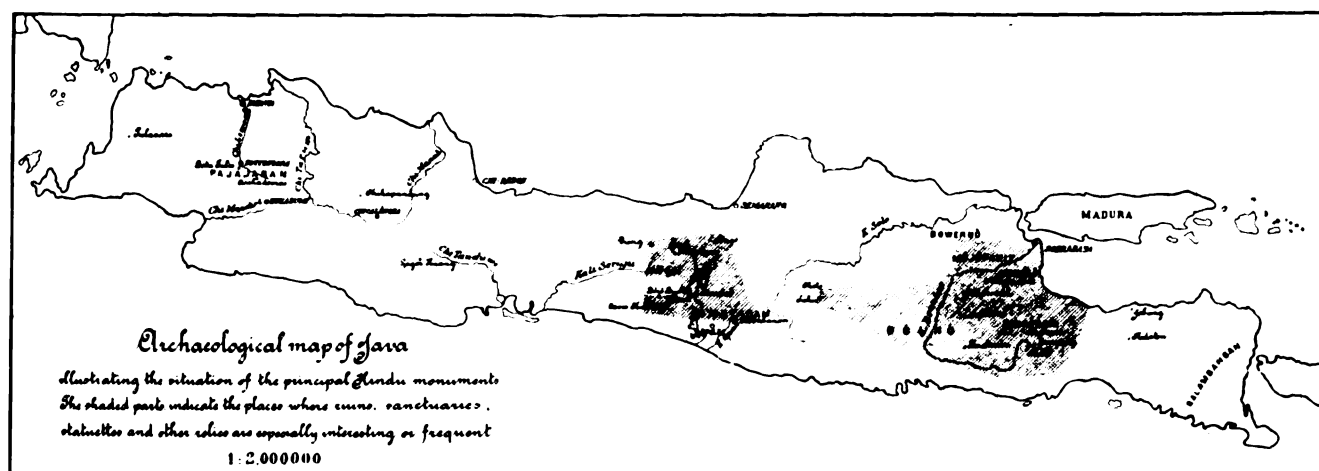
So it was in 1886, and, alas! so it is still in many respects. The Archaeological Society, founded at Djocjakarta in 1885 lost its leaders after a short period of great activity, gradually became a moribund institution, and eventually was dissolved.

In 1901, a permanent committee for archaeological research was created by the Netherlands India Government. Till now it has laboured chiefly in Eastern Java, and a

probably account for the fact that it was not dealt with earlier by archaeological enthusiasts.

Raffles and Crawford provide the oldest records, and the former sent successively Lieutenant Cornelius (1814) and Captain Baker (1815) to survey the ruins. Horsfield, the clever co-operator of Raffles, went to visit the plateau in 1816. He did not reach it, however, but we owe to him the first reports on the old so-called "Buddha Roads," which lead to it. Professor Veth pointed to the fact that this name is incorrect. For, by and by, we shall have occasion to observe that on the Diëng Plateau no trace is to be found of Buddhism, and that all the ruins there have a pure Sivaite origin. The term "Buddha Road" has been derived from the Javanese expression. With the natives, the word "Buddha" has no other meaning than "extremely old." They have no idea whatever about the founder of the Buddhist religion, and speaking, for instance, of "Agama Buddha," they mean, without distinction of the various creeds, the religion of their ancestors prior to the Mahomedan invasion.

The roads leading to the Diëng were paved originally for a width of about 1.5 metre. In the steep parts there are trachite stone



pressive Sivaite Chandi Prambanan, which embraces 157 temples, large and small.

The Central Javanese period ends about the middle of the tenth century. In the sphere of the classical art at least, no inscriptions were found showing a later date than about A.D. 930. The ruins of Suku, though geographically belonging to Central Java, and dating from A.D. 1445, show great degeneration and aesthetically cannot be reckoned in the Central Javanese period. This silence of the records is so sudden, so inexplicable, that the question may be put how a period of such grand temple building can end so abruptly without any perceptible offshoots.

Mr. Yzerman made an acceptable conjecture. He thinks it possible that the inhabitants have fled from a power mightier than that of foreign usurpers. He thinks of an enormous eruption of Mount Merapi. "Can it be," so he asks, "that after this convincing sign of the anger of the gods, the country was left where, notwithstanding all sacrifices, in spite of untiring endeavours, their favour could not be won?" And further on: "With the change of religion, the interest and respect for the Hindu sanctuaries decreased, to be replaced gradually by great

splendid monograph of Chandi Jago or Tumpang has been published. For the protection of the temple ruins, however, little has been done till recent times; only some of the principal ruins are preserved and guarded.

Monumental art in Eastern Java is the continuation of that of Central Java. It commences about the beginning of the tenth century and ends at the Mahomedan invasion, which must have been in A.D. 1518, according to the latest evidence. In many regards it may show a richer development, a greater phantasy, yet in broad lines it is a gradual enervation, and could not reach such a height as the art of Central Java, which is rightly classified by Mr. Rouffaer as "strict classical."

DIËNG PLATEAU.

The temples of the Diëng Plateau include some of the most interesting of the monuments of Central Java.

Enclosed on all sides by a barren mountain range, ending on the eastern side in the Prahu, whose summit rises to a height of 1,500 feet, this small plateau is situated 6,500 feet above sea level. Its secluded situation and the paucity of roads giving access to it

steps of 1 metre breadth, undecorated and bounded by plain banisters, on which, here and there, there were wooden railings. A shallow step made the ascent easy. Many of these stairs have disappeared, but sufficient remains to arouse amazement at the pains taken by the Hindus to facilitate a pilgrimage to the Diëng Plateau. One staircase has still about 4,000 steps; it rises to a height of 1,700 feet.

In 1864, Van Kinsbergen went to the Diëng to take photographs of the principal ruins in charge of the Government. As the whole plain resembled a lake from which the monuments arose like islets, nothing could be done till the plateau was drained, and when this was completed it was found that excavation was also needed. With long intervals, this was continued till 1878. The collection of sixty-two excellent photographs made by Van Kinsbergen gives an idea of the ruins of the plateau, but a systematic research has not yet taken place. Up to the present there are not in existence architectural drawings or complete descriptions by competent hands of a single monument. Besides, no care was taken of the ruins, and anyone could plunder as much as he liked. Images were removed

to neighbouring villages without registering places of origin, and in none of the temples to-day is there a single statue. Other causes contributed to the destruction of the buildings. In the beginning of the last century, the plateau was peopled and cleared anew by the Javanese. Everything was overgrown with wood and shrubbery, whose roots had disintegrated the temple masonry. As village after village arose, the hewn stones were found fit material for house building. The soil was suitable for the cultivation of tobacco, attracting Chinese monopolists to the neigh-

oldest of Central Java, say about A.D. 800. Dr. Brandes states that "one of these inscriptions is written in the so-called 'Wenggi scripture,' which was used also in Western Java. May this be a hint of the fact that the Hindu culture removed from Western to Central Java? It is especially remarkable, because the scripture sets forth that the colonists descended from South India. But beside this 'Wenggi scripture,' Kawi manuscripts were found, a writing in characters related to the Pali and alphabets of Farther India, but which, in its oldest

These latter show that besides temples numerous edifices appeared on the Diëng, consisting of a stone base, with a wooden superstructure. These, probably, accommodated the priests. All the temples have names of heroes from the Bratayuda, a Javanese epic, taken from the Mahabharata, and thus supply no information of their origin.

The Arjunô temples form the most important and best preserved collection. The northernmost is the Chandi Arjunô itself, with the aperture turned to the west. Built on a square ground plan, there is a small projection for the porch. It is constructed on a stylobate of 6 by 6 metres. The inner room measures only 2.5 metres square, and contains a pedestal on which an image or a lingam must have stood. The pedestal has a spout for sacrificial water, which fell upon the floor and was then emptied by a channel in the northern wall, similar to that employed in many buildings in the Far East. Immediately below the spout is a stone well to receive the spilt water.

Originally, the roof consisted of three storeys, gradually becoming smaller in the square ground plan. Two of these storeys have been saved partially. On the corners that are left recessed are placed free-standing, temple-like structures. The porch, capped with a pointed roof, is framed by the kalāmakara ornament, as is the case with the niches decorating the façades and storeys of the roof. All free-standing images from these niches are lost, and so we cannot say much about the meaning of this little temple. The banisters end in makaras, and show upstairs a curled-up snake.

Immediately in front of the Chandi Arjunô is the small Chandi Semar, a plain, rectangular building, of 7 by 3.5 metres, with door and window apertures. It may have been used as a dwelling-place for priests, or as a store-house for temple utensils.

Both monuments were encircled by a wall, whose entrances, on the east and west sides, were enclosed by images and fitted with stairs—all now lost.

South from Arjunô is situated Chandi Srikandi, a small monument of which the roof decoration has almost entirely disappeared. Flat pillars divide the outer walls into three panels. The central panels are ornamented with representations, carved in high relief, of Siva, Brahma, and Vishnu successively on the eastern, southern, and northern faces. The upper corners of the panels show a celestial in clouds. On the angles of the chief structure and porch are five-sided pilasters, with a lotus calyx capital, garlanded in a fashion rarely seen in Central Java. The door aperture is not enclosed by the kalāmakara ornament, but has only a wanaspati as upper decoration—another infrequent feature in Central Java but often met with in Eastern Java. There is nothing in the building to indicate what statue it enshrined.

Srikandi, like Arjunô, had an additional small temple. Only the foundation remains. Both were enclosed by a wall.

The same arrangement occurs in the Chandi Puntadewô, situated to the south. It is conjectured that all these supplementary temples contained a nandi, the bull equipped with mighty virile power—the vehicle of Siva. Elsewhere in Java (at Prambanan), in front of Siva temples, separate buildings are often found, dedicated to such a nandi.

From an architectural point of view, Puntadewô may certainly be called the most beautiful temple of the Diëng Plateau. It betrays a close resemblance to Arjunô,



CHANDI ARJUNÔ.

bouring village of Batur, and Brumund speaks of having seen temples pulled down to form the foundation of large Chinese houses.

Historical records of the Diëng are scarce. There are reasons for believing that the plateau was deserted for five centuries, for the last date found there by Dr. Junghuhn, painted on a rock, is from A.D. 1210. For the rest, the few dated inscribed stones show that the Diëng settlement belongs to the

forms, resembles the scripture of Girnar (Bombay)."

From this, it may be concluded, that the question of descent is very complicated. Neither are the architectural forms decisive in this respect.

According to the oldest records, there must have been about forty ruins. Nowadays, there are no more than eight, without counting the foundations of several building groups.

having a similar plain square ground plan with porch projection, but the proportions are much more beautiful. The ornamentation of the front, however sober it may be, is splendid. As the basement rests on a high plinth it appears much more slender than the other buildings. Especially does the plan division of the principal edifice betray good qualities. The central piece is occupied by a tall protruding niche, surrounded by a beautiful *kala-makara* ornament. The *makara* has been dissolved into floral ornament, but we see distinctly in it an animal's hind leg. We shall not expatiate here on the meaning and forms of the *makara* ornament in Hindu art, as the occasion to do so will be more favourable with the larger monuments; we will only point out the fact that this *makara* ornamentation appears very often elsewhere, and culminates in exquisiteness on the *Bôro-Budur*.

The tall niche was probably too high for the statue once adorning it, and so we see the upper part filled with a canopy motive, decorated with acroteries. Flanked by flat pilasters, the side panels are decorated with a garlanded acrotery. The panels themselves have half pilasters, with a crowning, of which the groundwork again appears to be a *kala-makara* ornament. The roofing of the niches next to the porch is not rectilinear, as in other cases, but sloping. The first storey of the roof is a repetition of the plan of the chief structure, and, as in the case of the *Chandi Arjunô*, here we find the temple-like edifices on the corners. How splendid *Puntadewô* must have been in its original state!

Here also there is the pointed roof. The door aperture, enframed by the *kala-makara* ornament, is so narrow that one can scarcely enter. Little is left of the stair decoration. The banisters had two separate ogives each, and the fragments exhibit the curled snake motive.

The last temple of the *Arjunô* collection, *Chandi Sembôdrô*, is a somewhat different type. Once more the ground plan is square with projections on each face; but in the principal structure the projections are so large that the ground plan resembles a Greek cross. The protruding part on the west side containing the porch, with *kala-makara* ornament, is larger than on the other façades in which the niches appear. These niches, now empty of their statues, have as their only ornament the *wana-pati* on the top. *Sembôdrô* is a worthy specimen of the *Dieng* temple type, characterised by its tower-like form. It must not be forgotten that another storey stood originally on what now remains.

Quitting the *Arjunô* complex, we find at the eastern foot of the *Panggonan* mountain the remains of various small temples. *Gatot Kôchô* alone still stands intact. *Nalagarene* was buried years ago by an earthquake. Of the others only the bases are left.

On the north we find *Chandi Dôrôwati*, in many respects resembling *Gatot Kôchô*. The principal niches, however, have a cusped arch instead of the straight covering used everywhere else. The cornice is characteristic for its markedly projecting ogive, whose upper moulding above the niches is decorated with an ornamental motive. In the middle there is a carved head. The re-entering upper structure is also fitted with niches here with a straight covering. On the receding corners we meet once more with the temple-like decorations, but so dilapidated is the whole edifice that the original form can only be guessed. The shrine shows only a broken pedestal for the image.

The adjacent temple, *Parikesit*, was partially destroyed by an earthquake in 1873, and its destruction was completed by native vandals.

Only one more temple, *Chandi Bimô*, need be noticed, for of the other ruins mentioned on the map the foundations alone remain.

The most southerly of the temples on the plateau, *Chandi Bimô* is at the same time the one in the best state of preservation. Though we consider *Puntadewô*, and perhaps some others, architecturally more beautiful than *Bimô*, the latter must be dealt with more amply. For this edifice has a somewhat

of the temple shows a very tall narrow niche, crossing the profile and carried as far as the basement. Enclosed by flat pillars, deepened panels are formed, three on each side of the niche. The central one is folded and goes round in the corner. The cornice has a toothed moulding consisting of ogive-like consoles—unique in Java—and underneath a hemisphere with garland motive. Above the cornice follows a basement for the first roof storey. The upper moulding of this reveals something unexpected, vainly looked for elsewhere in Java—a double lotus cushion,



CHANDI PUNTADEWÔ.

different style, and its ornamentation shows some interesting details most rare in Java.

Square, with the usual projections on each face, *Bimô* has the entrance to the shrine facing east, whereas that of the other *Dieng* temples is turned to the west. The portal is so wide that the projection is quite lost in it. The basement continues over the porch, as is the case with *Puntadewô* and *Sikendi*. In the projection the wall of the main portion

with flower leaves turned up and down bordered by seed-pods, in itself a favourite and oft-repeated motive, but nowhere as an element of cornices.

The first roof storey rises squarely, diminishing thrice, and capped by a cornice in which now appears a single lotus cushion underneath a garland ornament. Four niches of different sizes, superimposed and re-entering a little every time, form the central

ornamentation. The diagonal ribs are covered by two angle niches, above which is a circular column, whose shaft carries successively a garland ornament, a hemisphere and a lotus cushion, crowned by a fluted globe. The porch has in its cornice and other parts much resemblance to the temple structure itself, but it is kept low, so that its roofing is under the cornice of the temple. How the crowning of this porch once was can only be guessed.

The entrance aperture crosses the mouldings of the basement, and is enframed by the

observed on several of the Central Javanese temples.

Remarkable is the ornamentation of the roof niches. They are enclosed by horse-shoe arches. Some show an inward vault on the top. Most of them enframe a sphinx-like bust or head, betraying beautiful plastic. Probably this is symbolic of persons looking from windows at processions of the faithful going to the temple. This ornamentation appears also at Chandi Sewu and Prambanan, only applied in antefixes. Evidently we have to do here with an exceedingly old

ment that makes one think of a lotus bud, and of a strangely bifurcated little tree.

Apparently the above-mentioned fluted globes have a symbolic meaning, too, and it is not improbable that the symbol belongs to pure Sivaitic buildings, for we do not find it in any Buddhist temple. Porch and shrine are roofed with slanted stones. Above the doorway, which has a big lintel, there is a discharging vault. Holes in the lintel and threshold indicate that there was once a double door here, opening inward. The statue is lost.

When we have described the other larger edifices we will refer to the lithic techniques and the style of the Diëng temples. So we leave the Diëng Plateau to cast a fugitive glance at the caves of the Kuto Arjo.

TEMPLE CAVES.

Compared with the enormous rock temples of British India the four temple caves in the centre of the residency of Bagelen are inconsiderable. From an artistic point of view they are of little interest, and are merely mentioned to show that this form of religious structure is not unknown in Java.

It must be observed that whereas the cave temples of Hindustan are mainly Buddhist, these small imitations are consecrated to Siva. In all of them were found linggams on pedestals, with basins to catch the sacrificial water. Some consist only of a square room for the lingam and a gate, decorated with plain mouldings; others still have a rectangular porch. All the rooms are capped with natural arched roofs. There is no trace of ornamentation.

Buddhist caves are not found in Central Java. A single example of them exists in the eastern part of the island in the residency of Kediri.

CHANDI PÈROT.

Chandi Pèrot is situated in the residency of Kedu, on the north-eastern slope of the Sindorô. Of this small temple, a few years ago, not much was left. An enormous waringin tree grew on the top of the building, and held the ruin in the embrace of its mighty roots. A great part of the walls was pushed away by those roots and has since disappeared. Yet there was still enough left to conclude that the temple was Sivaitic: on the back wall was the image of Ganesa. One of the side walls gives a representation of Mahisha-Sura-mardani, or Durga, in the shape of the destroyer of the bull-devil; and it is without doubt that the third wall once had the image of Siva as Guru. These representations occurred in high relief on the middle panels. On re-entering side panels, upright figures were carved, probably satellites of the chief persons in the middle.

The temple has disappeared now. In 1907, the giant of the forest was blown down in a gale, so that the last remains of the monument were lost. This small inconsiderable building is mentioned here, because an inscribed stone found in its neighbourhood gives the year A.D. 852, from which it may be inferred that in the residency of Kedu, in which exceedingly large Buddhist temples were erected, Sivaitic monuments were present from the beginning of the Central Javanese Hindu period.

CHANDI PRING APUS.

Situated close to the Chandi Pèrot, this is another Sivaitic temple. The ground plan is square, without projections, and this is repeated in the first and second roof storeys.



CHANDI DÔROWATI.

kala-makara ornament. This is also found around the principal niche on the western side, but not on the northern and southern façades, from which it is inferred that the temple was not finished. Upon further contemplation this also is to be observed in other parts of the building. The side niches of the second roof storey are decorated with the above mentioned ornament, and it is clear that the other roof niches, too, had to be decorated. Apparently the carvers were disturbed at their work, a fact that can be

motive. On the architrave of the eastern gate of the large stupa at Sanchi (about 100 B.C.), we have representations of a town, with houses in the balconies of which appear the busts of persons looking out upon a festal procession. In Bandhara, too, the motive is frequent, and also at the stupa of Sikri, where we find, again, the same enframing with a horse-shoe arch.

Other niches of the roof of Bimô show symbols of a holy water bottle on a pedestal, of a vase with flowers, of a pear-like orna-

which are partially extant. In the latter, we still see remnants of small temple-like decorations on the middle of the façades, just as they appear in some of the Diëng temples. A small projection on the east enframes a narrow porch aperture, conducting to the shrine, in which is a mandī of such breadth and height that it cannot pass through the door. The temple must have been built round the statue. The mandī is remarkable on account of an ornamental pattern appearing between the hind and fore legs.

From an architectural point of view, Pring Apus is interesting. Both here and at the Chandi Pèrot, underneath the chief structure of the temple, a torus or hemisphere moulding appears. This is not found in any of the Diëng temples.

At Pring Apus we meet with a succession of mouldings, which is normal for almost all the temples of Central Java. The profile could be designated the classical one. In its most simple form it consists of base, main structure, and cornice. The base is composed of a flat plinth, followed by a bell-shaped ogive and hemisphere. In larger objects (Borō-Budur, Mendut), we find between the ogive and torus re-entering and projecting girdles, sometimes ornamented with a toothed moulding. The principal wall itself and also the cornice are again more or less complicated, but as a constant element of the latter there is a frieze-girdle. The principal structure and frieze are the right parts for ornamentation. Generally, every cornice is decorated with acroteries or antefixes, vivifying the tight moulding and accentuating the corners.

Let us return to the outer decoration. Completely covered with ornament, the principal wall is divided into three panels. In the central panels, parrots are frolicking in frail foliated ornament, and we also perceive kinnaras, the human birds, the heavenly musicians. In the side panels, we see what Dr. Brandes called "the recalcitrant spiral," the favourite motive in Java, to be found a thousand times in vertical and horizontal panels, in which the undulating line is in harmony with the floral motives. It is, indeed, a very old theme in Indian art, and is found in the gates of the large stupa of Sanchi in a somewhat different shape. Remarkable, too, are the decorations at the lower and upper ends of the flat and angle pilasters separating the panels, and not less those at the lower and upper edges of the principal wall.

On either side of the gate, the wall is decorated with a man and woman tenderly embracing each other. The gate is enclosed by the kala-makara ornament.

CHANDI SELÔ GRYÔ.

This temple is situated at the foot of the south-eastern promontory of the Sumbing, about seven miles from Magelang. It is square, of some 5 metres length, with a projection on each face. In the eastern and larger projection is the entrance to the inner room. The other projections contain niches in which are images of Siva, Durga, and Ganesa.

The temple walls are undecorated, as are also the three antefixes relieving the cornices on each façade. Everything goes to show that the architect finished his task at this temple, but that the sculptor had not yet begun with his ornamentation, as was obviously intended.

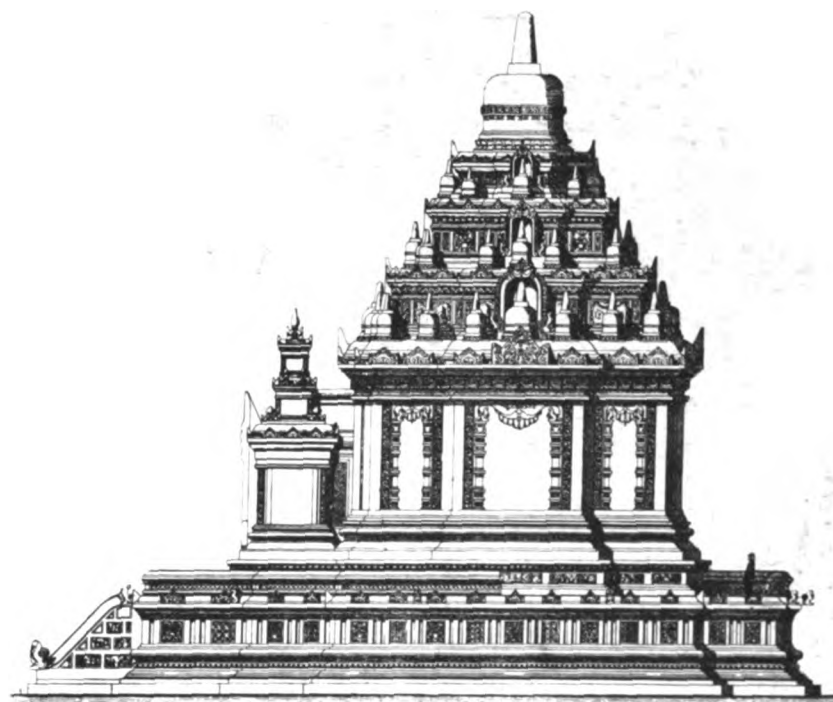
Above the cornice the arrangement of the ground plan is changed. The re-entering of the side panels increases, while, at the

corners, small temple buildings are attached. This arrangement appears to have been repeated on the higher storey of the roof. The original must have been very slender, and the whole displays a striking likeness to some of the Diëng temples. The hemisphere, too, is lacking in the moulding of the base. The chapel is empty, but probably the principal image or the linggam stood against the northern wall, where there is a projection. A small niche and a console perhaps contained lamps. The roofing is remarkable for every row being rounded off to a quarter of a circle.

Incarnations of Siva, in niches placed loosely against the temple, act as doorkeepers; this may be considered an additional adornment of the edifice.

It may be pointed out here that the Hindus selected for their temples a spot from which they had a splendid outlook on the surrounding scenery. Selô Gryô is an

The structure was first discovered in 1834, during the laying out of coffee plantations, though it must be assumed that the Javanese already knew of the existence of the ruins, as their summit partly projected from the mound of earth which hid the greater portion of the structure, and many a stone from the temple had already found useful application as building material in the neighbouring villages. The fact that the temple was practically completely buried is one observed with many other antiquities, and has given rise to the suggestion in some quarters that the Hindus buried their sanctuaries at the time when their domination gave way to that of the Mahomedans. This opinion may still be frequently heard, but there are no historical indications pointing to this in Central Java. On the contrary, the little that history provides in the shape of inscribed stones lends ground to the supposition that part of Central Java was temporarily depopulated. The temples



CHANDI MENDUT RESTORED—SIDE VIEW.

(The sculpture of the chief panels is omitted: scale 1/75).

example of this. The entrance faces a deep ravine, which, opening wider and wider, gives a view of the smiling plain of the Kedu, with the silhouette of the mighty, constantly smoking Merapi in the background.

CHANDI MENDUT.

After having given a description of the foregoing Sivaitic antiquities, we pass on with greater pleasure to speak of the Mendut temple, a piece of purely Buddhist architecture which brings us into a more congenial and attractive sphere, owing to its plastic beauty and its monumental magnificence, but above all owing to its lofty and matured conception.

Chandi Mendut, lying in the residency of Kedu, in close proximity to the confluence of the rivers Progo and Elo, is the first point of rest, a refreshing and soothing one, for the tourist who, from Djocja, visits the Borō-Budur.

were left behind, abandoned, and presumably partly destroyed by volcanic eruptions; alluvial and atmospheric deposits, rains of ashes and other volcanic effects produced a growth of the earth's crust, and with this was coupled the influence of the mighty tropical vegetation.

This was, indeed, proved to be the case as regards the Mendut temple; when in 1903 the entire clearance of the original temple site was proceeded with, the level of the latter was found to lie 2 or 3 metres below that of the kampongs, which had sprung up to the north of the building. River alluvia, above all, had raised the soil here, because the ground from the foot of the Merapi has a regular downward slope to the valley of the adjoining rivers Elo and Progo. Between the alluvial deposits, a number of layers of volcanic origin were discovered.

The temple, at the end of the last century, was still in a very deplorable condition. The masonry of the foundation and the body of

the building was greatly displaced, the cornice and a great part of the roof ornamentation had fallen; the crowning piece of the portico had disappeared, the vault of the roof on the entrance side was on the point of collapse. The string-boards of the staircases had partly disappeared. The great image of Buddha in the interior chamber was dethroned and partly sunken in the floor. The throne itself had evidently been completely stripped by treasure hunters.

There has been a change in this state of things. The Government has sacrificed con-

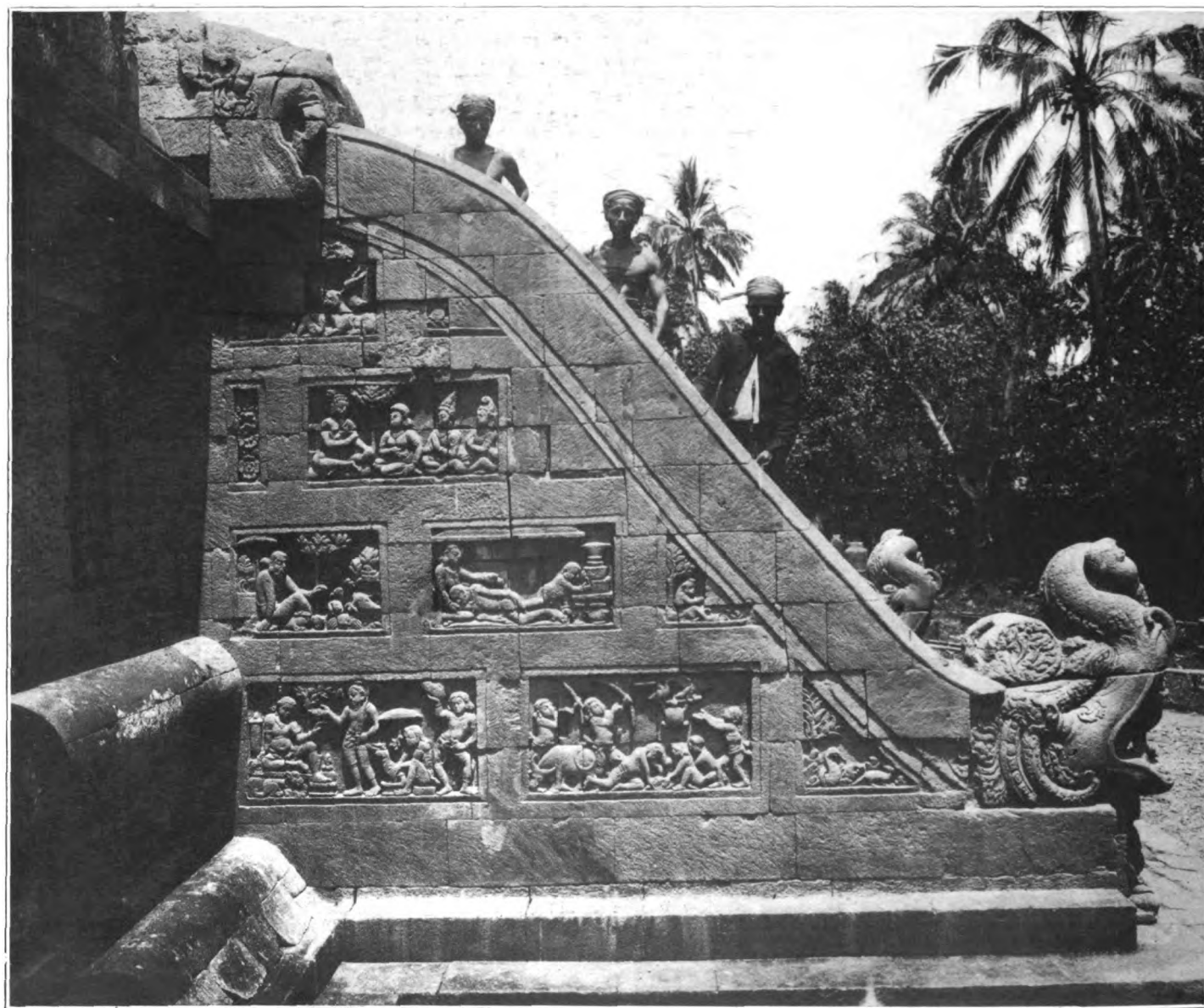
Brandes, for the composition of the restoration drawing.

The surrounding land was excavated over a large area, and, in addition to the ruins of a minor temple discovered as early as 1896, the foundations of the former enclosure were lighted on. The latter consisted of a wall of red brick enclosing a rectangular space of 110 metres in length and 50 metres in width. Within the enclosure, remains are still found of a brick building which may have been an old temple or the habitation of priests, also a basement in the form

The first well-illustrated description is due to the pen of Messrs. Kersjes en den Hamer.*

Most of the Buddhistic structures in Java have their main axes directed, with more or less accuracy, along the cardinal points. At Mendut, however, the diagonals of the plan are thus directed in such wise that the entrance faces north-west.

The temple rests on a basement 3.70 metres high, which is square in plan, with a slight projection on each face. At the side of the entrance, this projection is larger to give room for a monumental portico. In this way,



CHANDI MENDUT. DECORATION OF THE STAIRWAY.

siderable sums to guard this jewel of Hindu architecture against further decay.

About 1900 the work of restoration began and extended to the cornice. The interior was restored to its original condition. During this work, the necessary data were at the same time ascertained for reconstructing the top and for the crown-piece of the portico. These data were but few, but nevertheless were sufficient to the ingenious Chairman of the Antiquities Commission, the late Dr.

of a cross with equal arms, entirely made of red brick. No distinct remains or traces of entrance gates in the enclosing wall were discovered.

Unfortunately, complete restoration of the great temple has not yet been carried out, but in 1908 the Government once more appropriated funds for replacing the lost cornice, and there is the likelihood that the further entire completion of the temple will take place in good time.

the basement attains a length of 28 metres and a width of 24 metres.

The profile is purely classical, containing between ogives and towers a beautiful row of dentals, the whole of strikingly happy proportions. The basement bears the stamp of solidity in keeping with its function of serving as support for the entire structure.

* "The Tjandi Mendut before its Restoration," by B. Kersjes and C. den Hamer, published by the Bataviaasch Genootschap van Kunsten en Wetenschappen, 1903.

This base is followed by a high frieze, divided into panels by smooth pilasters. The pilasters themselves are in turn divided by vertical lines into projections and recesses, which preserves the slenderness of the frieze and gives rise to a delicate shade effect beside the peaceful shadows of the horizontal profiles.

As already stated, the pilasters are smooth, but at the side of the entrance there is one worked pilaster which shows that the temple remained incomplete as regards its ornamentation. This will also become evident later in other parts of the structure, and it is useful to direct attention to this, as the same fact recurs in almost all large temples. One has the impression as though the architects had set for themselves astoundingly high standards, and regarded no temple as completed unless all structural parts which lend themselves to ornamentation had been adorned.

It seems to us that in many cases they went too far, and instances are not rare in which one regrets that the sculptors did not exercise more restraint.

In relation herewith, we often view with increased appreciation the small unpretentious Diëng temples. In these the beauty of the architecture, in truth, predominates, and is not overshadowed by the magnificence of ornament.

Look, for instance, at the side view of this Mendut temple. The chief adornment, namely, the "speaking relief" which ornaments the chief and side walls of the portico, is not represented therein. We see, therefore, only the "decorative ornamentation" indicated, and yet even such a drawing as this to some extent produces the sense of overloading. In actual fact, however, the Chandi Mendut does not suffer from this defect, because the decorative ornamentation generally has but a slight relief. Seen from a distance, this ornamentation is far less conspicuous than the alto-relievo on the principal walls. This is justly conceived, because these later sculptures are of a higher order, and, with the chief statues in the cella, they dominate the conception of the entire temple.

Let us now go back to the decorated panels of the basement frieze. We may divide these into two groups.

One consists of panels with ornaments of a floral character, in which, nevertheless, a system of principal lines may be observed displaying a geometrical division into compartments, consisting of standing lozenges or recumbent squares. Here there are two designs applied alternately. The existing beautiful sculpture, owing to its very slight relief, suggests a fine tapestry or upholstery adornment.

The second group is ornamented with sitting, kneeling, and hovering figures, from the back of which an ornament is once more developed, in which the recalcitrant spiral again forms the chief scheme. In charming flower and leaf pattern, in natural or modified style, the lines undulate with gentle curvature to the right and left side of the central figure. The panels are entirely filled, not a single corner being left unadorned, and yet they fall peacefully and soothingly on the eye, and produce no impression of over-charge. The sculptors who ornamented these panels were masters of the art. Under their skilful hand, these grew up a harmony of proportionate delicate lines, dominated by symmetry in their particular form, but for the rest free and unconstrained.

Just look attentively at only one of these panels! The principal lines denote a symmetric plan, but with a symmetry in the

filling out of the details. Everything bears the stamp of having been chiselled out with loose and free hand. It is as though the chisel had passed over the stubborn stony surface like a "tjantingt" over the undulating Batik garment.

We are here confronted with Indian ornamentation of high quality, the characteristic of which consists in the avoiding of everything that savours of rule-of-thumb. Purely geometrical ornamentation is now and again

and kneeling figures, in each case alternating with the panels with tapestry ornament. The posture of these latter figures also testifies to fine æsthetic sense and to no ordinary powers of conception. To make this clear, it must first be stated that on three of the outside walls of the main body of the building representations are found of Padmapani, the redeemer of the present world, and his two female energies respectively, all of them principal figures from the rich pantheon of



CHANDI MENDUT, BODHISATVA PADMAPANI.

found forming the borders for flower ornaments, but it is far overshadowed by the favourite elegant floral pattern.

It is further deserving of remark that the pose of the figures is marked by fine feeling in its design. The hovering figures, one of which is a Garuda, all occur at the side of the entrance. The uplifted hand, as it were, invites the faithful to enter into the sanctuary. On the remaining three sides, we find sitting

the Mahayanist or devotees of the northern Buddhist doctrine.

This trinity of notable figures dominates the external ornamentation and also the pose of the figures in the basement here referred to. The latter are all sitting or kneeling in a devout posture. The eyes and the entire action are in each case directed towards that chief figure of the front: the spectator, as it were, is compelled to look up to it, and it is surprising to note how the sculptors have succeeded in bringing the devotion to a climax in proportion as the figures are seated

*An instrument used for making the wax drawing on the Batik garment.

closer beneath the principal figure. Where Padmapani, the first in rank of the trinity, sits in the panel, vertically beneath, the figure is in the attitude of extreme veneration, the hands folded above the head in a reverent "sembah," the legs crossed beneath the body in what is called the "silô" posture. The same silô posture is that of the central figures on the other fronts, but the pose is somewhat less devout towards these more subordinate "taras."

The cornice of the basement is enlivened with antefixes, the location of which is intimately related to the adorned panels of the frieze lying beneath.

A low balustrade of powerful profile crowns the sub-structure and encloses a terrace of about 2½ metres width which runs round the entire temple. The cube of this balustrade is adorned internally and externally with a flat lozenge pattern, filled with floral ornament.

On the accompanying drawing a break is

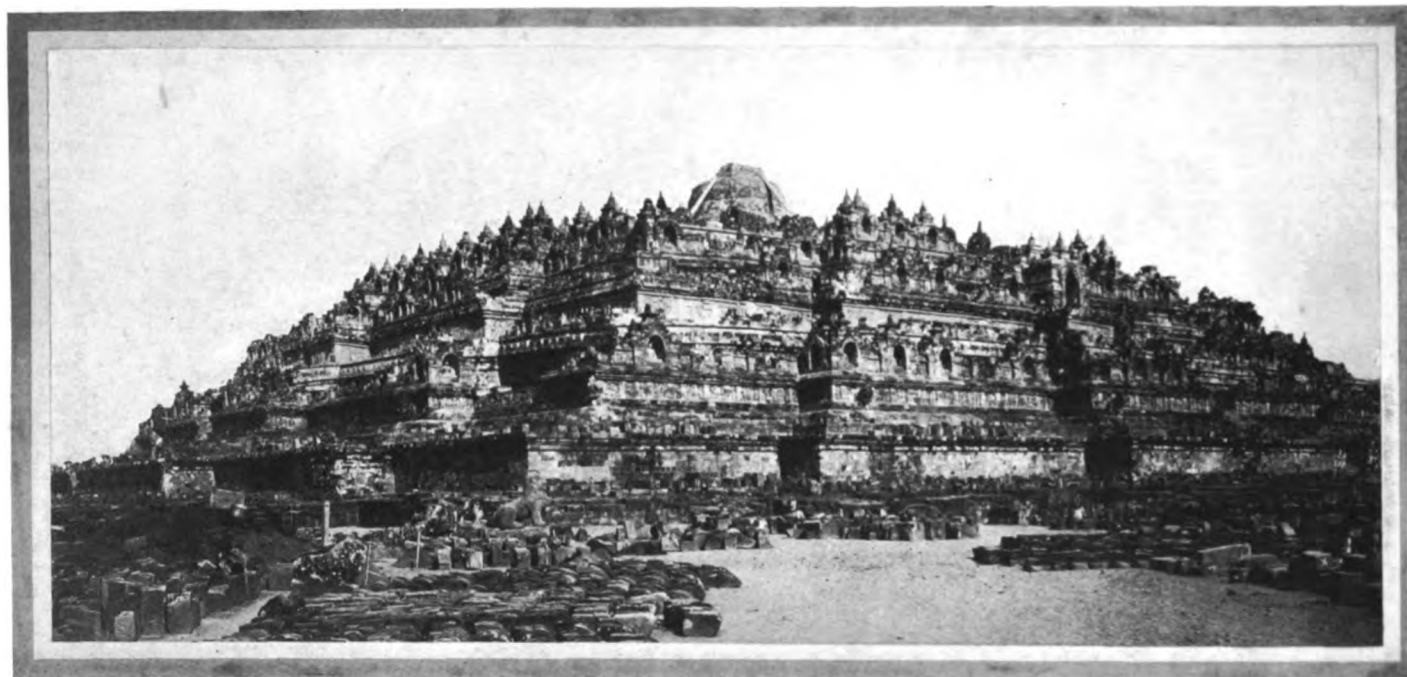
obscure, may be best compared with a modified monster lion head. The makara is the elephant fish, with the body of a fish and the head of an elephant. Both motives are of hoary antiquity, and occurred before the time of Acoka (about 300 B.C.). The makara appears to have had a crocodile for its basic formation, originally, in British India, but the figure speedily becomes hybrid, and is distorted into an elephant fish, in which the fish body in later times is resolved into ornamentation. Still later, it appears in the form of a monster elephant, with four legs.

Here in Java, too, we vainly look for the fish body, and the makara, therefore, appears as the head of an elephant. When the body is now and again represented, it is exhibited as the body of a biped animal. Of course, the makara appearing in Java shows great linear degeneration, because it then already had the history of ten centuries behind it. That the distortions and modifications after so respectable a period of life are great will be

least in Middle Java, ran its course in a few centuries, and at its very entrance into the island bears the traces of extreme maturity. The evolutions and development of definite motives would therefore always be very difficult to trace.

Meanwhile, Dr. Brandes has been the pioneer in this respect. From his pen various articles have appeared on this interesting subject. In them, the essential features of the case are investigated and made clear with great ingenuity and reasoning power.*

Let us now return to the case which formed the point of departure of this digression. On the photograph of the staircase, we see that the kala head is partly restored. The ornamentation on it, to some extent owing to the high position of the piece, is only visible in part; to this we shall refer later. The makara is almost intact. The mouth of the elephant is widely distended; the molars and canines are visible in the upper and lower jaws. The tusk cannot be faithfully



BORÔ-BUDUR, GENERAL VIEW.

made in the balustrade in order to show the beauty of the temple as a whole.

The main water falling on the enclosure is discharged by twelve beautiful makara gargoyles, projecting at great length.

The monumental staircase with its great projection is limited by stringers adorned with makara ornaments. As this has been repeatedly referred to, and will recur several times below, we must devote a few words to it.

We might turn to kalā-makara ornamentation, the favourite motive of Central Javanese-Hindu art. It is found everywhere, a thousand times repeated, and on all structural parts which lend themselves in any degree to its application. It occurs on staircase stringers, as a border, in frames, niches, gateways, in crown pieces and antefixes, &c. In addition to these architectural uses, it plays an important part in ornamentation in the like applications. It consists of two parts, the kala head and the makara.

The kalā head, the origin of which is still

readily understood by every one acquainted with the character of Indian art, which only applies a limited number of ornamental motives, but continually transforms them and modifies their outlines. Nevertheless, the makara may serve as a proof of that other characteristic of Eastern art, namely, the adhesion for centuries to one and the same standard motive, for the old and the original remains recognisable to the connoisseur in each piece of makara.

The kalā-makara ornament is part of one of the most interesting, but at the same time one of the most complex archaeological problems, the complete history of which it has not yet been possible to write. In addition to the kalā-makara ornament, there is, indeed, found in Indian art the "garudanaga" ornament, and it is very probable that as regards combinations and alterations each has influenced the other.

The career of the kalā-makara ornament in Java can likewise not be fixed yet. This will be found very difficult, because the art, at

reproduced on a piece of this kind; this would be in conflict with the harmony of the lines. Therefore, the tusk is reduced, and terminates in ornamental volute. The trunk is coiled upwards and grasps a stalk ending in a lotus blossom, from out of which a seed cluster falls down on the head of a lion, which is seated on the tongue of the makara. The aperture of the eye is clear and distinct, and behind it is developed a horn-shaped ornament, laid around the ear, which, in turn, is treated entirely as an arabesque. Above the head lies a cylindrical pillow, the side faces of which are enriched with foliage. Behind the horn we find a pearl edge, with arabesques running out against the pilasters of the staircase, which for the rest are smooth.

* For the Dutch reader, these publications are here enumerated:—"Eene fraaie variatie van het olifantsvisch of makara-ornament," *Not. Bat. Genootschap*, 1902, Supplement VI. "Byschrift by de door den Heer Neeb gezonden fotos van oudheden in het Djambische," *Tydschrift Indut. L. en Vuk*, XLV. "De Makara als haartres-sieraad," *Tydschrift Ind. T. L. en V.K.* XLVII.

A good deal that is strange is seen to lie in this makara, much that we should not expect in an elephant ornamentation. The following pages will afford an opportunity to clear up this point. Beneath the makaras, carriers are seated. The sides of the stringers are adorned with six rectangular and four triangular panels, of which latter only two have been spared on the northern staircase here represented. These panels are chiselled with reliefs which illustrate the so-called djatakas, i.e., the histories of the pre-existence of the Buddha. Most of them are still unexplained; three of the djatakas represented on the northern staircase have already been identified.

Wilsen, who, in 1851 copied most of the reliefs of Bōrō-Budur, already directed attention to the scene in the lowermost row, in which is illustrated the well-known story of the chattering tortoise and the geese. We there see the tortoise holding in his jaws a stick which is carried by flying geese, and beneath it lies the tortoise who could not hold his tongue, already on the ground, and the buffalo herd-boys are already fighting for it. This scene is interesting as indicating the way in which the sculptor depicted a story; it illustrates what was their method of composition. All the phases of the story are dealt with in one single picture.

In the second row there is a rectangular panel, in which are represented a Brahman, a crab, a crow, and a snake. This illustrates the story of the Brahman who had contracted friendship with a crab, whom he rescues from a critical position. Later on, the crab witnesses the evil plans of a snake and a crow, the former of which intends to kill the Brahman in order to enable the crow to get possession of the eyes of the Brahman. The crab now shows its gratitude to its benefactor; it feigns friendship for the crow and snake, offers its help as a third party in the compact, and seals this by an embrace, in which it bites off the head of crow and snake.

Dr. Brandes has explained this scene in a commemorative publication dedicated to Professor Veth, and has pointed out that versions of these djatakas also occur in the "Tantri," an old Javanese book of fables in which traces of Buddhist influence are clearly noticeable. "But nevertheless the Tantri cannot serve as the text-book for the illustrations on the Buddhist monuments," says the writer. "The Tjandi Mendut in fact dates from about the ninth century of our era, and the Tantri is about 400 or 500 years younger."

Dr. Brandes also found in this scene confirmation of the fact that here in Java we have to do with Mahayanism; in truth, in the south or Pali text the same djataka occurs, but there is also mention of a second, the female crow, and there the Brahman is first bitten by the snake; the latter is killed subsequently after first having been compelled to take back the poison (see Cowell, Jataka 380).

In the triangular panel in the upper row, a tortoise rides on the waves; the rest has been lost. Dr. Brandes believes he recognises in this the story of the race between the serpent and Garuda, in which the former gains the victory by cunning. This also occurs in the Tantri.

In the triangular picture in the second row sits a monkey in wanton humour under a tree. We believe we recognise here a story which is parallel with Cowell's Jataka 176. The latter tells of a foolish and gluttonous monkey, which had stolen a mouthful and both hands full of peas, drops one of the peas, and in his anxiety to save this one finally finds himself the loser of the whole.

We now proceed up the staircase in order to get a view of the outer walls of the temple. The body of the temple proper rests on a basement, which is adorned round about, cube-wise, with thirty-one panels. On all of them, we once more find the undulating line with recalcitrant spiral, just as in the panels of the other basement, not vertical but horizontal this time, developed lengthwise of the pictures. Parrots and other birds enliven the leaf and flower ornaments. Part of them appear to be purely decorative, and exhibit in the centre symbols such as the upright shell and the prone moon sickle; the greater portion is, however, the so-called "speaking relief," and once more illustrates djatakas. Mr. Den Hamet has explained several of them, which also occur in the Pantjatantra. It would lead us into too great detail to attempt to deal with all of these.

The basement has beneath its capping a band adorned with a garland motive.

With regard to the further extreme adornment of the temple and the gateway, we may be brief and refer the reader to the drawing. The square plan with a projection, which we likewise found in the foundation, is here maintained up to and including the second roof storey; above this we find the octagonal which is crowned by an enormous dagoba.

The decorative ornament on the faces is exceedingly beautiful. The projecting and receding faces of the cube are bounded by smooth pilasters; next to them we find slender posts adorned with a climbing spiral and between heavily wrought pilasters of squatting dwarf carriers, exhibiting much agreement with the antique type of pigmy. The carriers support a very remarkable crown with kala-makara ornamentation, in which the makaras are directed inwards.

The fields thus formed on the faces are further adorned with sculpture, forming the chief ornamentation of the external walls; on the drawing this is not indicated.

The chief figures on the central panels, i.e., on the projecting faces, have been explained by Dr. Brandes. From his explanations we abbreviate the following: "On the rear of the temple, directed to the south-east, is represented Padmapani, Awalokitecwara of Mahakaruna, all names for the redeemer or the saviour of the present world. The Bodhisatva is depicted standing with four arms, three of which hold the usual emblems of Brahman, namely, the wreath of roses, the jug of the water of life, and the book of palm leaves; the fourth hand is broken off, but it can clearly be seen that it was stretched out, presumably in a wara-prada posture."

Above the prahba, the aureola, stands the tree of heaven, flanked by heavenly beings hovering in clouds. On both sides of Padmapani figures sit beneath celestial trees, likewise with prahba, and in a devout posture looking up to the redeemer. On both the other side faces, we find represented on the central panel "the two female energies of Padmapani, his two caktis, the two most important, namely, the Tara *par excellence*, and presumably Brekuti-Tara, the one in lovely form, the other armed for combat, ready to inflict punishment, awakening repulsion and consequently deterrent." The Tara *par excellence* is represented on the south-western face.

"The history of her origin relates that the redeemer, looking upon the world, shed tears at the sight of its inhabitants so sadly plunged in stupefying ignorance. The tear which flowed from his left eye, on falling

to the ground, formed a pond, on which instantly, with the rapidity of lightning, there appeared on a lotus flower the goddess Tara, whom Awalokitecwara thereupon directed to alleviate the suffering of mankind.

"We therefore find her represented here with four arms and holding two of the emblems of Awalokita, sitting on a lotus, which is carried by a Naga king, and a Naga queen rising up out of a pond.

"The celestial trees and creatures are here also reproduced, and next to the goddess, likewise on lotus blossoms, two votaries sit, whose names it has not yet been possible to determine.

"The other Tara depicted on the north-eastern face has eight arms, each holding an attribute indicating punishment; she also sits beneath the tree flanked by celestial creatures, and having next her two standing figures."

On the receding faces, standing figures are represented beneath a canopy-like panjong, whose name has not yet been ascertained.

The cornice, among other things, shows a frieze band ornamented with parrots and bordered by a garland motive. This ornament is repeated on the three cornices of the floors of the roof.

Here each time we also find the vertical posts with climbing spirals and the pilasters crowned with kala-makara ornament. The fields are everywhere adorned with ornamental flower pots containing lotus bouquets. Each floor has in the centre a shallow niche with the ordinary border. These are, however, false niches, without figures. The drawing further shows how each cornice recedes and thus allows of placing a festoon of dagobas. Here we see how the dagoba, the Buddhist architectural type *par excellence*, intended as the repository of a relic, has become a simple architectural adornment.

Although they unquestionably contribute a great deal to the beauty of the roof, the question nevertheless arises whether their being located here can really be deemed rational. These bells really shut off a great deal of the beautiful ornamented panels and niches from view.

The side walls of the gateway have now disappeared, but the remains show that they were once adorned in keeping with the faces of the temple proper.

We now enter the gateway. The kala-makara border on the gate has entirely disappeared, but the interior adornment of the walls happily has been spared for the most part.

In the receding casements, we find, right and left, a tree in style with bird-men in the top corners, and beneath them repository vases and two kneeling figures.

The projecting gateway walls each show two panels, the lowermost of which, right and left respectively, exhibit representations of the Yaksha King Kuwera, God of Riches, and Hariti. The latter is the Yaksha mother, who devours her children, and who is converted by Buddha, who, for that purpose, took from her for a time the youngest and most beloved of her five hundred children. In a mythical sense, she was the personification of the small-pox epidemics which destroyed so many child lives. After her conversion she became the protecting goddess of children (see Dr. J. P. Vogel in Bulletin de l'Ecole française d'extrême Orient VI.: page 727 *et seq.*).

In the two uppermost panels we find four celestial beings depicted, one of them a Naga figure, with various attributes in its hand, hovering in the clouds. The action is

directed towards the interior of the temple. Above this a border with interlaced garlands, and next a band of flowers with undulated horizontal line, and finally panels with bouquets adapted to the general architectural style. From here the roof, which has now disappeared, ran upwards in regularly projecting layers. The doorway leading inside is roofed with a heavy horizontal lintel, above which is a relieving arch.

The interior of the temple is trapeze-shaped in plan, the greater half being occupied by an elevation on which rest the thrones of three gigantic and beautiful images.

In the centre is the chief image to which this temple is dedicated, that of Buddha, sculptured in a single stone of 3 metres height. The sculptural form is exceptionally beautiful, and connoisseurs of Indian art attest that this statue ranks one of the first

a prahba terminating in a point. The dais of the throne was adorned with a simple flower pattern of which only a small portion is now left.

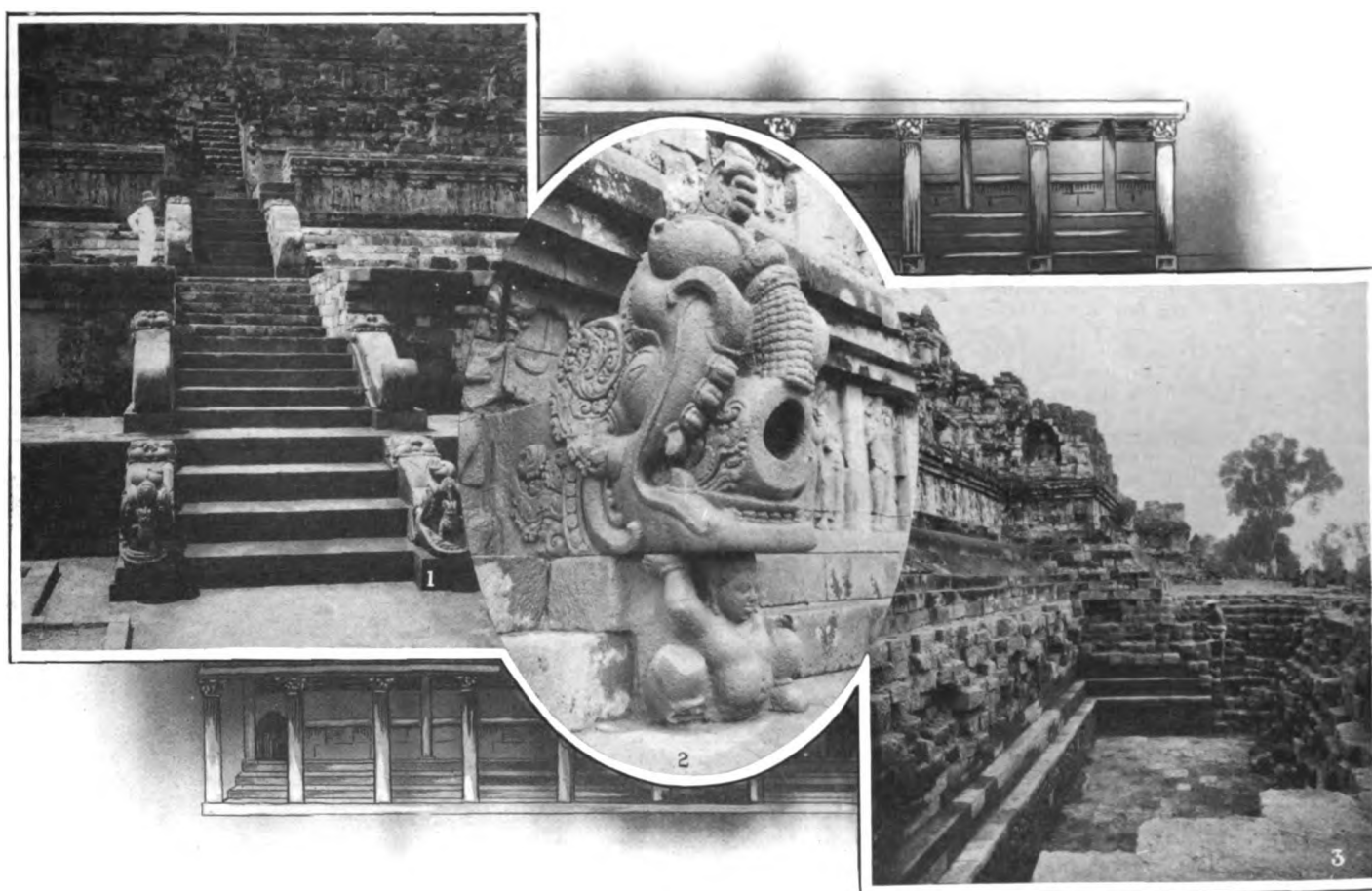
Towards the wall on the right and left behind the image runs an unadorned staircase rising aloft, which was intended for the temple service, and along which the priest or the faithful could mount in order to bring their homage of flowers to the teacher.

During the course of the restoration, two remarkable little stones were found in the interior chamber, which on being put together exhibited the "Tjakra," a symbol of Buddhist doctrine, flanked by two gazelles. They refer to the preaching of the law in the gazelles forest near Benares, and are now replaced in their original position centrally beneath the great Buddha, and towards the elevation on which the three thrones rest.

and is regarded as the founder of Buddhism in Nepal. In Java, there are also other representations found of this Bodhisatva. A very beautiful example originating from East Java is now in the Berlin Museum. It holds in its left hand the palm-leaf book, and in the right hand an upraised sword, the "sword of knowledge," wherewith the clouds of darkness of the mind are cloven through.

It deserves remark that the last-named Manjuceri image wears a costume adorned with a makara pattern (see Grunwedel "Buddhistische Kunst," page 56), and that the image in Mendut also shows makara motives in its ornamentation.

In the rich adornment of the upper arm, the ornament of the middle plate runs out on both sides in the form of an elephant fish, and a gold ear adornment is a massive makara reproduced in full.



BORÔ-BUDUR.

1. STAIRWAYS LEADING TO THE FIRST GALLERY (RESTORED).

2. MAKARA-GARGOYLE OF THE FIRST PRINCIPAL WALL.
(Found at the latest excavation.)

3. THE BASE PARTIALLY UNCOVERED.

among the beautiful Buddha images in the world. It is the spiritualisation of the Buddha idea, and is exceedingly attractive in its restful, stately beauty. The divine teacher sits in European wise with the lower limbs free and the feet resting on a lotus pillow; the hands are upraised in the "janamudra" attitude of exhortatory address. The mantle leaves the right shoulder uncovered, and falls in scarcely visible folds down to just below the feet.

The seat is enriched with the conventional ornament of all Buddha thrones, the couchant elephant, and above it a rampant lion, and following this the makara. Behind the head,

The images on either side of the Buddha are Bodhisatvas. The left image is clearly recognisable by the figure of his spiritual father Amithaba in the crown. It is, therefore, Padmapani, the redeemer of this world, who also occupies the place of honour on the outer wall of the temple. The other Bodhisatva, according to experts, represents Maitreya, the lord of the future world or Manjuceri.

Professor Foucher, the well-known French archaeologist, is of opinion that it must be Manjuceri, who in Gandhara is usually depicted with Padmapani next to the Buddha. Manjuceri is presumably an historic personage,

The thrones of the Bodhisatvas are designed on the same model as that of the Buddha. Here, too, is the prahba terminating in a point, remarkable for Java, inasmuch as it occurs but little in that form in India and is more suggestive of Japan.

The two Bodhisatvas are masterpieces of Indian sculpture, and must have been the work of the same faith-inspired hand that created the great Buddha image.

For the three great images, however, the artist has chosen superior material. The species of trachyte is much better than that ordinarily used for sculptures, and has a more granitic aspect.

The walls of the interior are broken by six niches, 1.10 metres high, bordered by pilasters with kala-makara crowns. The niches are empty, and now only exhibit a lotus pillow. Dr. Groneman thinks that we have here the niches in which formerly the lamps were placed for lighting up the interior.

Between the niches in the side wall, we find a projecting entirely unadorned pilaster terminating beneath the arch, with pentangular abacus; it is clear that the intention was to enrich these. The pentangular abacus was the place for the ornamental lion's head, which is elsewhere put by preference on similar pilasters. We have here, therefore, another proof of the fact that the Mendut temple was *never entirely completed*. The temple walls are, for the rest, unadorned, and have a vertical height of 4 metres. Here begins the false arch which rises up in regular projecting layers.

The interior of Mendut is the only one of the large temples in Java which is still practically intact, and owing to the noble sculpture of the images, it may at the same time be called the most beautiful.

Upon entering, the impression is, it is true, not the same as when visiting a great Western cathedral, in which the lofty outlines of the arches impress us, and lead up our thoughts to the Almighty on high. Yet the sober, comparatively small interior is full of charms. Here, in the semi-obscurity, is felt, rightly attuned, the pious gravity and religious devotion of a sanctuary which has sprung from pure inspiration for what is highest and best in the human spirit.

During restoration, a fragment was found of an inscribed stone, presumably originating from the gateway. The inscription was deciphered by Dr. Brandes, and yields "the strophe" it is customary to term the Buddhist confession of faith. Unfortunately, the stone contains no date, but the lettering is old Javanese, and according to Dr. Brandes is just as old as that which was found above the buried reliefs of the Borô-Budur.

Another important discovery made during restoration proved that within the foundation of the present temple there is another basement of the like profile, but made entirely of bricks, except for a plinth facing of trachyte. In the higher structure, the body of the temple proper, no brick is encountered.

On the top of the temple, a re-construction may also be observed. The older trachyte stone roof was still partially in existence and still unadorned; it was later on covered with a mantle which forms the present adornment of the top.

We have intentionally dealt somewhat in detail with the Mendut temple, because the structure really is one of the jewels of Central Java. All praise to the Government which has sacrificed considerable sums to safeguard this temple against further decay, and not only that but to restore it to a great extent to its ancient noble condition.

CHANDI PAWON.

If after a visit to the Chandi Mendut we direct our steps to Borô-Budur and pass the Progo river, there lies on our left hand the Chandi Pawon hidden in the evergreen foliage of the kampong of Brojonalan.

A few years ago, this purely Buddhist temple was still a ruin in the true sense of the word. A gigantic wild cotton tree had forced its enormous system of roots into the foundation and embraced the north-west side. With stout upright stem, the giant of the forest stood aloft a full hundred feet, and

swayed his mighty summit above the rustling bamboo and coconut palms of the surrounding village. It cannot be denied that the tree with the ruins of totally insignificant appearance adjoining it, formed a picturesque whole, a contrast of the young and powerful life of nature with the old and dead art.

Yet the temple was in an advanced stage of decay; the stairways, a great portion of the foundation, the portico, and the entire roof had disappeared. The tree had considerably dislodged the main wall against which it stood, and was an ever-growing danger to the ruins. When in 1901 the Government gave instructions that measures should be taken for the maintenance of the building, a decision was speedily arrived at. The tree was cut down, and the temple entirely restored. The staircases and the ornamentation of the gateway came to light out of the ground in the immediate vicinity. Wretchedly little was found of the roof ornamentation, but this little was sufficient to enable Dr. Brandes to compose the restoration drawing.

Thus one might point to Chandi Pawon with satisfaction as the first temple in Java



CHANDI PAWON (FRONT VIEW).

which was completely restored, although one front had to be put up entirely of smooth stone, as the enrichment had here disappeared.

The structure rests on a square foundation of about 9 metres side. On the panels which once adorned the frieze, nothing very much has survived, but just enough to observe that here, too, diatka illustrations occur in the same spirit as those which were met with in the base of the Mendut temple. The orientation of Pawon entirely coincides with that of the last-named structure; the diagonal, therefore, runs north to south, and the entrance is turned towards the north-west. The stairways show kala-makara ornament and are also adorned with beautiful sculpture work in which we find a tree covered by the pajong. Beneath the tree, vases with jewels and next to them a kneeling figure with prahba behind the head and accompanied by disciples. We give a photo of this section because the illustration here referred to is used with predilection for the ornamentation of staircases in Buddhist monuments. In the temples in the Pram-

banan region, for instance, we meet with enrichment of this kind repeatedly.

The ornamentation of the doorposts of the portico has disappeared, but one single old stone indicates that there was here a pilaster motive presumably with a gana (dwarf bearer) capital. The frontal is bordered by the kala-makara ornament. From the kala head, garlands descend, and two resis drop flowers on the entering faithful.

The external ornamentation of the temple walls is uniform on all faces, and differs only in the receding panels, which on the side walls exhibit male figures (? Bodhisatvas), and on the front and back wall female figures, all standing, and with prahba behind the head.

The clothing of these figures is entirely in keeping with the requirements of Indian art; the upper part of the body is bare, a supple and light garment about the hips, which brings out well the soft and rounded forms, rich jewels about the neck, on the breast, arms, legs, and hips, and a high-wrought crown. The jewels testify to the high degree of development which must have been attained by the goldsmith's art at that time. The female figures are characteristic in their peculiar pose, resting on one leg, and with strongly projecting hip. This is the favourite posture which was normal in the primeval art period, and is maintained everywhere, being found in the bronze engraving and wood-carving arts likewise. Note, too, the happy proportions of these figures, the short upper half of the body, with full breast, the fine waist. By this means, in such good manifestations of the plastic art, a charming elegance is attained, which is of grateful effect and compensates the Western eye for that which it must reluctantly forego in many sculptural works, namely, good proportions and anatomically correct forms. On the projecting surfaces of the fronts, we find a tree of heaven, with male and female angels, and beneath it man-birds; above this panel, a vase with a lotus bouquet flanked by small air or light opening apertures. The distribution of plan and filling out with ornament on the front may indeed be described as highly successful.

The roof is characterised by the consistent repetition of the ground plan, in which we miss the octagonal as the transition form to the round crowning dagoba.

In the interior, the principal image has disappeared; a slight projection in the rear wall still indicates the place where it once stood. In the side wall is a niche bordered by the kala-makara ornament, of which the makaras, however, are entirely modified into curling foliage. Beneath this, on both sides of the niche, is a small panel with a tiger or tiger cat. The images from these niches have also disappeared. Not improbably the interior was once adorned with one Buddha and two Bodhisatvas. For the rest, the inside walls are unornamented; the false arch is constructed in the same way as that of the Mendut temple.

The opinion still prevails, quite generally, that the Javanese Hindu monuments are pile structures, and have been erected without using mortar. This is an error. In restoring Pawon, it was clearly found that the entire temple was originally put together with mortar, and a similar investigation in a number of temples in the Prambanan region gave us the conviction that in all Hindu structures in Java mortar was used.

In another respect, too, Pawon is instructive. The outside walls here and there still retain traces of an old stucco layer which was applied to the statuary; in this stucco

layer, by the aid of modelling devices, the ornament was repeated. The same feature is also observable at Bôro-Budur, but is distinct above all in a number of temples in the Prambanan region. Entire faces of buildings there still show a fairly sound layer of plaster applied with virtuoso art.

THE STUPA OF BÔRÔ-BUDUR.

Bôro-Budur is one of the most magnificent of Buddhist edifices, taking its origin in a time when the Mahayana, "the Great Car," celebrated its greatest triumphs in Java. It is by far the most important monumental creation here, and is likewise unique as a stupa. As such, the superiority of the structure, even in a far wider circle, may be recognised, because, even though in Burma or elsewhere a stupa may now and again be encountered, which is even more gigantic than Bôro-Budur, no monument is able to

the Bôro-Budur became the subject of serious investigation, treasure seekers made a great breach in the head dagoba. In this way they obtained access to the cella, in which a very remarkable Buddha image was enthroned. The floor was broken open, and the ground ransacked for a depth of some metres.

When, in 1842, the interior of the dagoba was more carefully examined, the image had already sunk entirely into the soil; only a few metal objects which indicated nothing were found. Nothing precise is known with regard to what was found by the first treasure hunters.

It is certainly remarkable that the history of the foundation of such a monument as Bôro-Budur should be so entirely enveloped in obscurity. In 1886, when the engineer Yzerman discovered that the temple had in its original conception quite another basement than it now shows, there were found above in the sunken foundation panels with short inscriptions. From the characters used, it was possible to determine that the structure

Hundreds of hands were busy for some months in clearing the terraces of soil and stones. Mr. Cornelius then made a fairly complete set of architectural drawings. From his architectural description, the oldest existing, only a part has been preserved.

In 1851 the Dutch Indian Government instructed Mr. Wilsen to make drawings of all bas-reliefs. This work took some years; at the same time, new architectural drawings were prepared. The data supplied by Mr. Wilsen were worked up by Professor Leemans of Leyden into his work, consisting of texts and plates, issued in 1873, "Bôro-budur in het Eiland Java," the text being in Dutch and French.

Notwithstanding our respect for the gigantic task accomplished by Mr. Wilsen, and the detailed work of Professor Leemans, it cannot be gainsaid that the object of the undertaking was a mistaken one. The results obtained at the cost of extremely large pecuniary sacrifices must remain unsatisfactory, for the simple reason that by means of drawings the sculpture of such a monument as Bôro-Budur cannot be reproduced. Moreover, the work is not complete. The drawings being full of mistakes, apparently of little importance, have until now prevented archaeologists from making a fruitful study of the bas-reliefs.

In 1873 Mr. Van Kinsbergen, by order of the Government, took the first successful photographs. Though small in number, they are real masterpieces, hitherto unsurpassed, of the photographic art.

In 1907 the Government appropriated funds for a general photographic survey of the temple. This work is to be completed at the end of 1909, and the results will, we hope, speedily become known throughout the world.

At the same time, a sum was allocated for the necessary repairs. It is by no means intended to restore the temple entirely and bring it back to its original condition. The object is to maintain the monument in its present state. These repairs are likewise approaching completion.

In the excavation of the temple soil and the hill slopes attending this work, surprising discoveries were made, which will enable the temple to be restored to a great extent, at comparatively little cost, to its original magnificent condition. We indulge the hope, not without reason, that the Government will make this additional sacrifice in the interests of ancient art. The excavations also brought to light a large number of stones with speaking relief, and it was found possible to complete many damaged panels, and even to find the fragments of a number of panels which had entirely disappeared, and which had been believed to be lost beyond recovery.

Bôro-Budur is square in plan, with about 120 metres side. The main axes are directed to the cardinal points. On each face we find two projections. This square plan is repeated in four galleries, which mount higher and higher, and are connected with stairs situate in the main axes. Galleries terminate outside in a balustrade in which one and the same architectural design is constantly repeated. In the fourth gallery the face has been so reduced that there is no longer room even for the smallest projection.

On climbing higher, we reach the plateau, where the monument suddenly assumed an entirely different aspect and character. In the galleries, in truth, the architectonic design is extremely detailed, and the walls right and left are heavily adorned; not a square inch, so to speak, has been spared by the chisel.



BÔRÔ-BUDUR. NICHES OF THE FIRST PRINCIPAL WALL (RESTORED).

equal the latter in richness of sculpture of such high artistic value.

It is probable that the word stupa originally had the meaning of a tumulus or sepulchral mound for some venerable and sanctified person. In Buddhist monumental art, it develops into the religious form of architecture *par excellence*, which was intended to shelter a holy relic, or which was erected at the place where some memorable event had occurred.

The size and magnificence of the stupas is closely related to the value of the relic or importance of the event, and where the Bôro-Budur appears as one of the proudest creations within the class of these structures, it is not improbable that a part of the presumed ashes of the great teacher, or some other relic ascribed to him, once rested in the gigantic dagoba which crowns the temple.

Unfortunately, nothing can now be said with certainty about this, because long before

must be about eleven centuries old. All further direct indications regarding the date of building are wanting.

Javanese history is also silent on this point; in an old chronicle the name "Barabudur" only is found in two places. From the oldest report, it appears that the temple was already known as such to the Javanese about 1710.

In 1814, Raffles sent Lieutenant Cornelius to Bôro-Budur. He found the temple pretty well covered with earth. Only the highest parts of the structure projected above ground. In them were the innumerable open niches with Dhyanî Buddhas, and it is therefore easy to explain why the Javanese called the temple "Barabudur," which has the meaning of "innumerable Buddhas." Undergrowth and higher trees grew up to the top of the hill, and daily the cattle from the surrounding country were pastured on it.

On once reaching the plateau, there is no longer a trace of reliefs to be seen. A square plan passes into the circle, which is repeated in three sober terraces rising higher and higher, formed by simple vertical walls without any cornice work. The round terraces, however, are crowned with 32, 24, and 16 dagobas respectively. These are very remarkable: the profiled foot has a lotus cushion, and above it the bell body is made of open-work. In each dagoba is seated a Buddha image. In those of the first and second terrace, the open work bell is built up of X-shaped stones, which result in lozenge-shaped windows. In those of the third and highest terrace, we find rectangular stones, and in them square openings, disposed like the spaces on a chess-board.

In the centre of the third terrace rises the enormous chief dagoba, the crown on the work; to the Buddhist, at the same time, the point of extreme sanctity.

From the sectional drawing it will be seen how this stupa is erected, terrace-wise, in enormous heavy masses of stone up and against a natural hill.

Unadorned staircases, which have now practically disappeared, formerly led from the plain along the hill slopes to the temple ground, and there passed into a footway flanked by gigantic lions, one of which is visible in the general photograph. Through here, three staircases led in succession to the broad circuit and the first gallery.

These stairs had almost all completely disappeared, but in the most recent excavation the chief fragments were nearly all recovered. One of the pictures depicts the condition after restoration. The lowermost is adorned with kala-makara ornamentation; on the second and third, the makara is replaced by powerful compact volutes.

We mount the eastern staircase and follow the prescribed ritual circuit, which the Buddhist had to follow when he undertook his pilgrimage to this temple in honour of the "Great Master." With our right hand towards the place of highest consecration, we traverse the broad circuit.

The principal wall strikes us by its powerful profiled fooling and cornice. The frieze is enriched with constantly repeated ornamentation, consisting of single and three-fold panels. In the single panel sits a figure bordered by pilaster motives with kala-makara crowning, the three panels consisting of a centre field, in which is a male figure between two women, flanked by panels with women standing erect. This adornment is decorative, and is, therefore, not part of the "speaking reliefs." Provision is made for variation, however, and in these figures we find different types which play a great part in the decorative sculpture of the Buddhists. For instance, we see among them the favourite nagas, the protectors of the Buddhist faith, in entirely human form, but distinguished by snake heads above the adorned hair; demons with wild curling hair placed about the head like a dreadful halo, with bulging eyes which seem somewhat strange in the otherwise kindly face.

Above the cornice, we find the architectural adornment which served as the standard motive, the "leitmotief," for the architect of Bôrô-Budur. This runs through all five gallery walls. This is the "structural unity" which is made use of 432 times, consisting of an open niche of the Dhyani Buddha, surrounded by a temple-shaped arrangement; the latter, in the centre, where it rises highest, terminates in crowning pieces, and is flanked by lower casements.

The question involuntarily suggests itself,

whether this does not testify to poverty of mind, deficiency of imaginative faculty on the part of the architect, who exhausted himself in this interminable repetition of the one motive.

We should not lose sight of the fact, however, that we are dealing with a classical religious structure, the architect of which was tied by the stringent requirements of devotional art. The designer of this temple of piety had set before himself the task of edifying the believer by an overwhelming number of sculptures in which the narrative

only in the position of the hands, a lofty place of honour in the upper work of the walls, in the form of small temple buildings likewise uniform with each other. This is an acceptable explanation of the astounding repetition of this one motive.

Yet, faithful to the characteristic and good traditions of Indian art, the repetition is not slavish. Provision is made here, too, for suitable variation. In the lowermost walls, we find different copings from those in the four lying higher, where the dagoba is elected as the motive. In the lowest wall,



BÔRÔ-BUDUR: BUDDHA HEAD.

occupies the foreground. This stupa is, as it were, a great epic in stone. A large space of flat walls was necessary for the sculptor. At the same time, the image of the five Dhyani Buddhas must constantly remain before the eyes of the pilgrim and interpret to him the conception of the new doctrine of salvation.

The architect evidently found it requisite to allot to these beings, always remaining the same, and the repetition of which differs

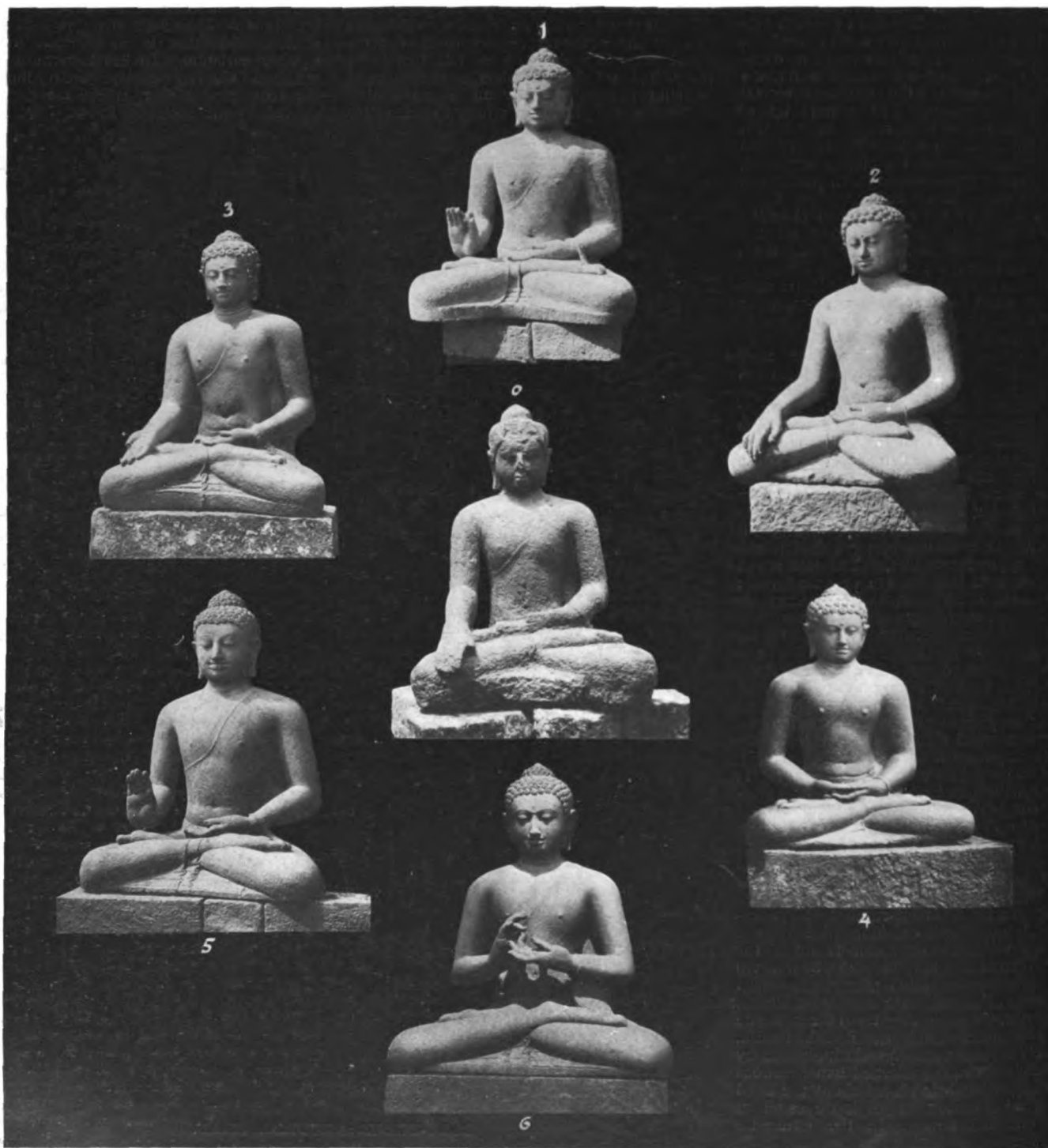
the decorative border of the niches, the kala-makara ornament runs down to the foot of the kala head, and the kala head is replaced by foliage. In the four higher walls, the kala-makara ornament is carried by ganas resting on a pilaster motive. There are also variations each time in the details of the ornament.

In itself, the "structural unity" is furthermore a worthy homage to the Dhyani Buddha statue. Against a clear tropical sky,

it yields an animated and beautiful silhouette, and a great charm attaches to this musing Buddha. The head somewhat thrown back in the half tone of shadow, the statue with its downcast eyes, breathes a serene medi-

The reader will here once more recognise the makara, the pet of the Hindu art of adornment in Central Java, borne by a squatting gana. A number of these pieces were found and replaced during the latest

are regularly distributed over the entire work, and how the rain-water falling on the temple is always thrown on to lower terraces, to be finally discharged into a system of gutters that ran down to the foot



BORÔ-BUDUR: THE SEVEN BUDDHAS.

0. UNFINISHED BUDDHA FROM THE CENTRAL DAGORA.
1. FIRST DHYANI BUDDHA FROM THE NICHES OF THE SUPERIOR GALLERY, TURNING TO THE ZENITH.
2. SECOND DHYANI BUDDHA FROM THE LOWER NICHES, TURNED TO THE EAST.
3. THIRD DHYANI BUDDHA FROM THE LOWER NICHES, TURNED TO THE SOUTH.

4. FOURTH DHYANI BUDDHA FROM THE LOWER NICHES, TURNED TO THE WEST.
5. FIFTH DHYANI BUDDHA FROM THE LOWER NICHES, TURNED TO THE NORTH.
6. BUDDHA FROM THE LATTICED DAGORAS OF THE CIRCULAR TERRACES, SAKYAMUNI OR PERHAPS A SIXTH DHYANI BUDDHA, WHOSE DOMAIN IS THE NADIR.

tative repose, which is the essence of its beauty.

On the broad circuit, our attention is once more attracted by the ornamental gargoyles.

excavation. Many of them are true masterpieces of the sculptor's art, designed in sober and powerful lines.

On the plan, we see how the gargoyles

of the hill. Only in the lowest wall, however, have the gargoyles the makara type. In all higher walls the kalâ head appears. From this again we see how the predominating



BÔRÔ-BUDUR: GATEWAY IN THE FOURTH GALLERY (RESTORED).

kalā-makara motive was also modified into the gargyle, and how the principle was adhered to that the kalā head should serve as an upper, and the makara as a lower ornament.

building, which sharply terminates in copings. Here also the kalā-makara ornament has the border work always varying in detail, but for the rest, always uniform.

Let us tarry a moment at the gate in the

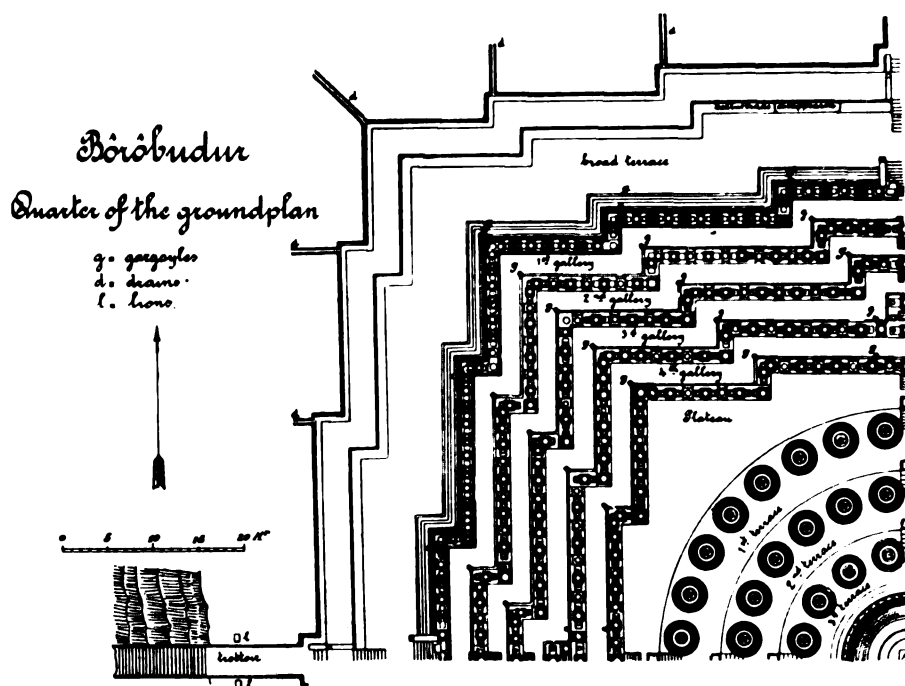
line behind each other, in the pleasant tropical sunlight with a streak of clear blue in the opening of the last ascent! We are here indeed face to face with one of the most beautiful pieces of Borō-Budur architecture.

During the last excavation, fragments were found which indicate that on each face there must have been a sixth gate; presumably the latter stood as an independent "torana" on the outward side of the broad circuit.

Above, a few details were given with regard to the architectural adornment of the round terraces. The dagobas were in a most deplorable condition, and of the seventy-two only ten had remained more or less intact. During the excavation work, however, so many stones of this part were brought to light that it has been possible to restore a great portion. The very comprehensive plans of restoration include the entire completion of all dagobas. The monument will then have been restored to its original condition from the topmost gallery wall, and will thus have regained much of its former magnificence.

The chief dagoba was also largely in ruins owing to the breach made by treasure hunters. This had greatly impaired the originally very beautiful outline of this part of the building. The bell was entirely dismantled, but is restored again. It has now risen higher, and it is clear that this dagoba exhibits the beautiful classical outline of many old stupas. It has still the bell outline, but, owing to the scarcely perceptible undulation at the foot, it displays a great similarity to the water bell form of the older stupas of Gandhara (Manikyala and Tsphola). The stupa of Sanchi may be mentioned here, but in the latter the rise of the curve is much smaller, and it has remained much more of a segment.

During the excavation, it was found that the pinnacle, which had entirely disappeared, was very complicated, and must *inter alia* have had some "pajongs" as the crown. The Buddhists attach a symbolical meaning to these sunshades, which may occur in the number of two, three, five, seven, nine, and thirteen. Presumably, Borō-Budur had three, one of which was dedicated to the gods,



We leave the broad circuit and mount the eastern staircase which conducts us to the first gallery. The principal wall and balustrade are thickly carved with sculptures which appear on both sides in two rows, one above the other.

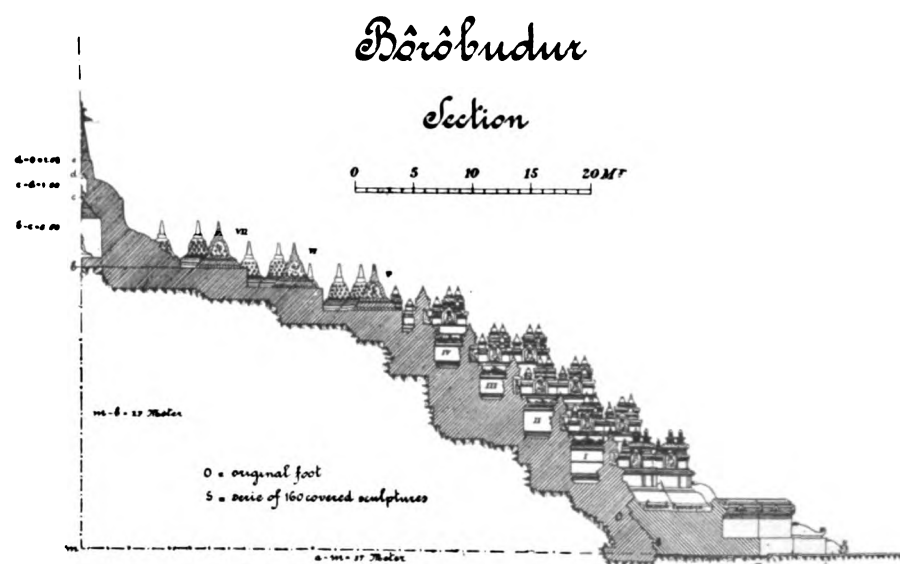
In the second, third, and fourth gallery the reliefs only occur in a single row against the principal wall and the balustrade. In the fourth gallery, we feel distinctly how the architecture is overshadowed by the sculpture. The ornamentation is crowded together in an astounding way, and the spectator, in consequence, cannot concentrate his attention. The walls remain low, and are still more compressed by heavy compound profiles. To crown the misfortune, the cornices are profusely strewn with sculptured antefixes. Practically without interstices, they succeed each other, and unfortunately they are placed without any regard to the jointing of the underlying masonry.

Each structural part in itself may captivate and charm us, but in the whole we nevertheless miss the natural and well-considered distribution of space and mass. A feeling of rest comes upon us when we leave this exuberance behind us, and mount to the soberly adorned round terraces.

A brief word as to the twenty gateways, which, in the centre of the faces, threw their arches over all stairways. Few have withstood the ravages of time, but during the excavation a number of fragments of the original ornamentation came to light, so that it will be possible to restore most of them.

We are immediately struck by the way in which the architect here, too, was unable to depart from the above described principal motive. Here again we have the same ornamentation as for the opening niches for the Dhyani Buddhas, namely, the temple

highest gallery wall. Stately and severe rises the plinth with edge of flame out of the ravishing play of undulating lines of the makara, to be solved harmoniously in the gorgon's head, the monster head with staring bulging eyes which dominates the entrance. Yet how sweetly that fearful head greets the believer. Tender lotus blossoms drop from the fang-studded upper jaw, and angels pour their homage of water down



over the pilgrim who mounted upwards to the spheres of higher consecration. The gateway is vaulted over with a powerful corbel structure. Let us then think of the vista through five such gateways in a rising

another to men, whilst the third would have pointed to the final release or "non-being." Symbolism lies likewise hidden in the distribution of the members of the pinnacle, which here, too, was not wanting; they

represent the various divisions of the Buddhistic universe.

The remarkable uncompleted Buddha statue which sat in the inner chamber has now at last been dug up out of the well in which it had gradually sunk.

It cannot be gainsaid that Bôro-Budur, regarded as an architectural whole, is disappointing on first acquaintance. There is reason for this. Prepared by pictures and descriptions, we come with the expectation of viewing a gigantic pyramidal temple, and we see a really very massive but very depressed tumulus. The small rise of the uppermost terraces results in the latter being partly lost behind the upper work of the highest gallery wall, and owing to this the structure is deficient in the slenderness of many other stupas, which produce an imposing effect by their uppermost parts rising high into the air.

It also seems to us that what is really the core of this stupa, the central dagoba, is of not sufficiently asserted character, and has been subordinated too much to the lower terraces and gallery walls. We think that the structure would have gained greatly in beauty if the climb of the round terraces had been greater, and the dimensions of the chief dagoba raised to those of a gigantic cupola.

But enough of criticism. We must not forget that the architecture has lost much of its beauty in consequence of its ruinous condition. We feel greater appreciation when we are able to carry ourselves back to long bygone times and picture its splendour. That exceedingly detailed crowning work of the walls, with their numberless cornices, must have made a powerful impression. In its endless repetition, it was like purl-work of captivating silhouette effect.

The picture given of this shows how, from the plinth of the original foot, the general silhouette line at first climbs steeply from O to A, and rises from there at 35 degrees to the plateau in order from thence to run on with an obliquity of 15 degrees to the north dagoba. From this we see that the monument at first has a pyramidal plan, and that the sinking in begins at the plateau, owing to which the whole acquires the contour of a segment of a sphere, the chord of which is somewhat more than a third of the radius.

In examining this silhouette, it must be borne in mind that it reproduces the vertical projection. If the temple is seen in actual reality, a perspective view is obtained in which the higher retreating parts are shut off to some extent by the lower parts, and appear less massive than on the plans.

The beauty of the structure stands or falls with the illumination. Without sunlight, it is a monotonous dead grey colossus. But the sun brings relief in the stone masses, and then the shadow effect speaks. The architecture of all Javanese and Hindu monuments, and that of Bôro-Budur in particular, is based on the principle of the effect of shadow. Hence, almost all of them on a square plan are provided with projections. These ensure the shadow horizontally. A shadow in a vertical direction was obtained by profiles heavier than in any other style of architecture. The Hindus were perfectly well conscious of the fact that they were building in the land of the sun, and in this shadow effect, horizontally and vertically, lies the essence of beauty of their monuments.

With the sunlight, the colour effect also disappears; in the grey tone of the whole we then perceive fine ruddy brown and warm ochre tints, together with velvety greens.

Finally, it must be pointed out that the architectural impression produced by Bôro-Budur has greatly suffered in consequence of the original base having sunk. It was stated above that the engineer Yzerman discovered that the monument had an entirely different foot from what it now exhibits to our eye. This is made clear in the section.

An examination of the foundations shows that the original outside revetment wall was too weak. Presumably the architects observed that it was beginning to sink, and thus the enormous mass which now forms the broad circuit was piled up like a gigantic stone ring round about it. The powerful profile of the mighty base is in this way finally withdrawn from the eye. It exhibited the classical succession of profiles such as is possessed by the Mendut temple, likewise with a beautiful row of dentelles between half round and ogives.

It must have been a difficult problem for the architect to make the footing stronger. He did the best he could with it, and passed in an ingenious way from the original half

taken from the daily life of ordinary mortals. We find hunting scenes, feasts, bacchanalia, representations of the most fearful punishments on earth, &c.

In the first gallery, the sculptures immediately breathe quite another spirit. Here dominate the djatakas, which deal with the pre-existences of the Buddha. In the uppermost row of the principal wall, the Buddha legend is displayed, illustrating the last human form of existence of the great master. Mr. C. M. Pleyte, in his "Die Buddha Legende in den Sculpturen des Tempels von Borobudur," has indicated that the Lalitavistara, a Mahayanistic text, has here served as the guiding finger to the sculptor.

In the second gallery, djataka scenes also occur against the balustrade, but generally it may be stated that the epic element is forced back into the higher galleries, and everything once more assumes an iconographic character. In the third gallery, Maitreya, the Bodhisatva of the future world, comes into prominence above all.



BÔRO-BUDUR: OPEN-WORK DAGOBAS OF THE ROUND TERRACES (RESTORED).

round into an ogive, which ends with a flat plinth on the broad circuit.

We may be sure that the Hindus effected this reconstruction very reluctantly, and buried the 160 reliefs with a tear in their eye. They carried it out, too, with great care, and protected them against crushing by a layer of clay. Consequently these sculptures have been extraordinarily well preserved. The strengthening, indeed, answered this purpose in all respects, as it has been ascertained by measurements that the original foot shows no noticeable subsidences or bulges.

As to the sculpture, we may be brief. Of the 1,460 "speaking pictures" present, the greater portion have still remained unexplained, but the strides in the study of northern Buddhism are continuous, and there is constantly more and more light.

The 160 invisible scenes on the buried foot were all photographed and then closed up again. It appears that most of them are

The artistic value of the reliefs is very varied. Alongside many masterpieces we find scenes in which the sculpture rather betrays the artisan's workmanship. For the most part, however, the architects of Bôro-Budur display themselves in their best form. Of moving beauty, for instance, are the pictures of the Sudhana-kumara-djataka.

We should, indeed, be able to point to many little masterpieces of this kind. In these speaking reliefs lies the great value of Bôro-Budur. Apart from the artistic value of these panels chiselled in high relief, there lies hidden within them a treasure of facts for science. The documents, as it were, lie heaped up.

Low dwellings, pompous palaces, temples, cloisters, carriages, ships, household implements, tools, utensils for temple ceremonial, flora and fauna, everything is here perpetuated in stone in overwhelming profusion, and only awaits treatment by a skilled hand.

Mr. M. H. Parmentier has already found in the structures here depicted material for an interesting contribution to our knowledge of architecture ("L'Architecture interprétée dans les bas reliefs anciens de Java").

Where available space did not allow of going into great detail, every object is, in the good sculptural works, treated broadly, but in many cases maintaining the characteristics, and here and there we find a great deal of that mode of expression after which many a modern sculptor strives.

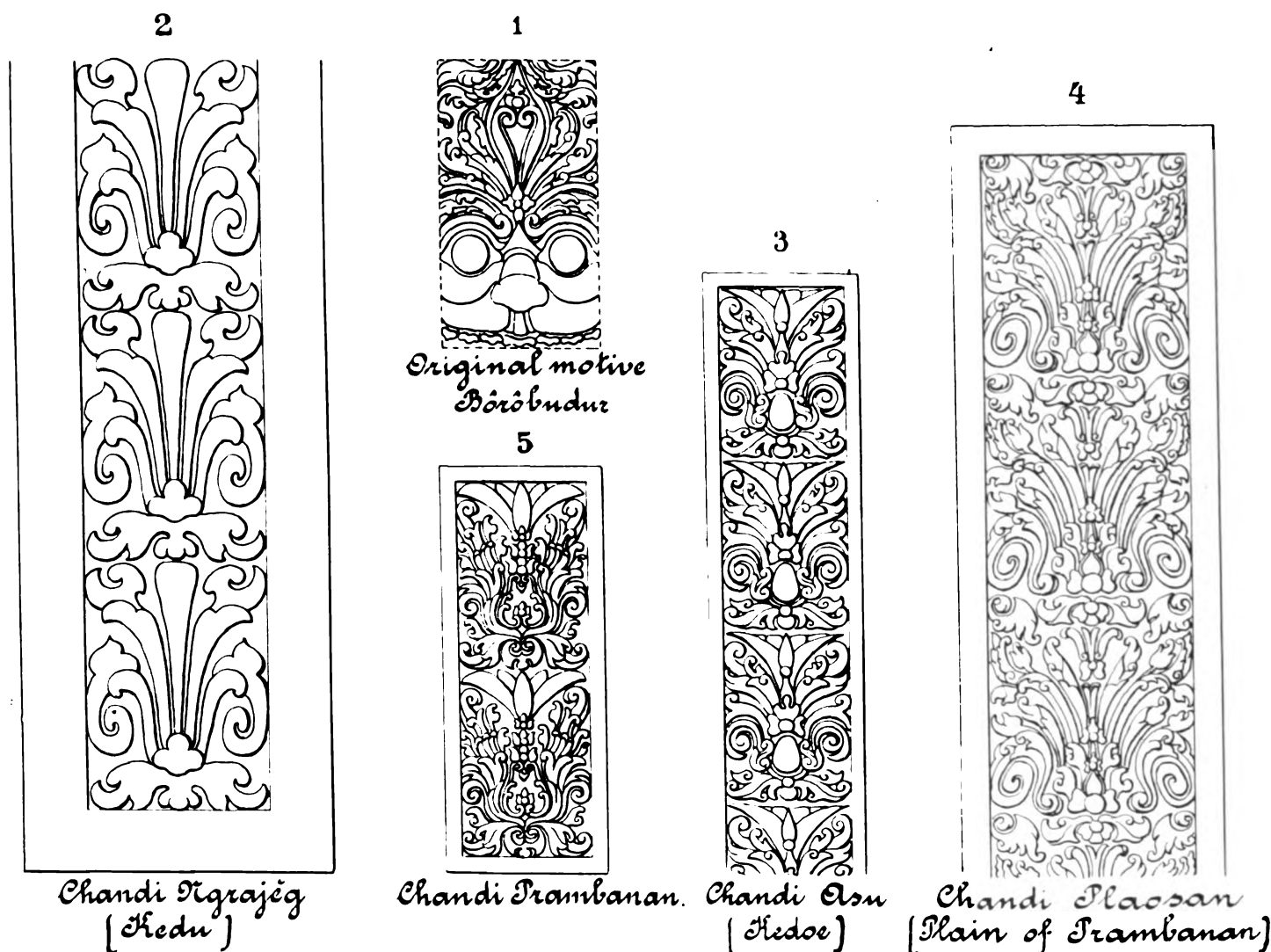
The images of the various Dhyani Buddhas in the niches interpret for the believer the idea of the genesis of the Buddhistic doctrine. Akshobhya is seated in the east, where the

of the great light. In the north, Amoghasidha has once more uplifted the right hand, and directing it forwards he says, "Fear not, I am the Master." Then in the zenith, i.e., in all niches of the highest gallery wall, sits presumably the lofty Wairodjana. The right hand remains in the same posture as that of the Dhyani Buddha in the north, but thumb and index finger are bent and indicate argument, the setting out of the cardinal points of belief.

This closes the series of the five Dhyani Buddhas, and with their images all sculpture and all architectural adornment disappears. We approach the higher spheres of the round terraces, where the figure of Buddha, now

the chief dagoba. Not improbably we must regard this as the loftiest being which the Buddhists can conceive. Adhi Buddha, the centre of the universe, from which all emanates. As we see, the mudra is like that of the Dhyani Buddha in the east, and the statue indeed sat facing the east. The curly hair is wanting, and the hands and feet are only outlined. This would be in agreement with the above supposition. The Buddhistic sculptor is, in truth, capable of reproducing the likeness of Sakya-muni and the Dhyani Buddhas, but may only suggest that of the very highest being of all.

In the Buddhas of Bôro-Budur, and those of Java generally, we are attracted above all



CLIMBING LION'S HEAD PANELS OF CENTRAL JAVA.

rising sun brings light and life. The left hand rests in the lap, the right hand laid over the knee with its finger-tips touching the earth, which is called upon as a witness to the promulgation of the new teaching. Then in the south follows Tarnasambhava; the right hand has been turned round as though he were beckoning the faithful to himself in order to bestow on them this boon, the creed of their salvation. In the west follows Amithaba; the right hand now lies on the left, folded in the lap, and symbolises the directing of one's thoughts inward, meditation which precedes revelation, the rising

perhaps representing the historical Buddha Sakya-muni, is seated in a mysterious half darkness of open-work dagobas. The position of the hand here agrees with that of the Buddha in the interior of Mendut, and is the attitude of the preacher.

In the accompanying photo we see the gradual succession of gestures of the five Dhyani Buddhas, that of the statue in the open-work dagobas, and finally that of the Buddha in the central bell.

Archaeologists have not yet arrived at unanimity with regard to the significance of the last-mentioned uncompleted statue from

by the classical head with the pure Indo-Aryan profile.

It should here be mentioned that the latest excavation has brought to light a fragment of a very small Buddha statue, which very probably belongs to the same upper chamber of the central dagoba. Unfortunately the fragment is so damaged that identification will be very difficult.

The architectural technique of Bôro-Budur cannot be dealt with in detail here. Just as elsewhere, the masonry was originally joined with mortar. In the principal walls, this use of a binding agent extends to about

three-quarters of a metre behind the surface of the wall. Balustrades and open-work dagobas bear traces of having been completely erected with mortar. To bind the stones together in one and the same horizontal layer, ample use was made of double stone dove-tails, in which we find a distinct trace of the survival of wood constructive methods in stone buildings.

The traces of an old stucco layer on the reliefs may here and there still be detected.

Before taking leave of Bôro-Budur, a few brief words may be devoted to the kala-makara ornament, as it here plays so great a part. We already saw how it occurs elsewhere, in staircase faces, niches, gateways, &c., and how the two elements are separately used for the type of gargoyle. The application goes farther, however, and it is, in almost every relief, repeated once or more. It need hardly be said that with so rich an equipment of patterns, the variations and modifications are considerable. It would take us too far to deal with the ornament here in all its playful variations. We must point, however, to a few interesting types of the makara.

When speaking of this motive in the chapter on "Mendut," it was stated that the body of the makara is seldom depicted. In Bôro-Budur, however, this is done several times.

CHANDI BANON.

In the immediate vicinity of Chandi Pawon, and consequently of Bôro-Budur and Mendut, too, remains have been found of a temple named Chandi Banon. The structure itself has been razed to the ground. It is even difficult to identify and measure the foundations.

It is nevertheless announced that in 1904 the images were excavated which originally decorated this temple. These images prove that a Sivaitic temple once stood here. The remains of the foundations have already indicated that the building once belonged to the great and interesting structures of the Sivaites in Central Java. The images have confirmed this not only by their size but also and chiefly by their artistic value. One Siva has Hahadewa, one has Guru, one Vishnu, and one Brahma, all more than life-size, together with a Ganesa. All bear the stamp of the classical work of Central Java, and belong to the best that the Sivaites have handed down to us from their most flourishing period.

It is important to note the foregoing in order to make it clear that even in that part of the residency of Kedu, where Bôro-Budur rose aloft as the mightiest creation of the Buddhists, a Sivaitic temple of the first rank stood in the immediate vicinity.

The statues were conveyed to Batavia, and occupy a place of honour in the spacious hall of the museum. Chance has brought them there together in fraternity with five Dhyani Buddhas of Bôro-Budur. The refreshing and peaceful breath of Central Javanese syncretism is wafted towards us immediately on entering this hall.

CHANDI ASU.

At the foot of the westerly spurs of the Merapi, in the residency of Kedu, lie the ruins of some small temples, among which Chandi Asu and Chandi Lumbung are the chief. Both are in a very advanced stage of decay, and at first sight appear objects of no interest. Yet Chandi Asu is in more than one respect fully worthy of attention.

It contains important data for the enlarge-

ment of our knowledge of the architectural and structural methods. It exhibits a new type. The temple body proper rests on a basement which is directly joined on to the foundation structure without circuit or balustrade. In the frieze we see casements supported by pilaster motives, an adornment which we already encountered on the Diëng Plateau, but which occurs frequently, above all, in the Prambanan Plain.

A most remarkable feature is contained, however, in the fact that on Chandi Asu work was stopped at a stage when the architect had fulfilled his task, and the sculptor had only just begun to adorn the temple. The antefixes of the cornices are still unadorned stones. The high niche in the principal framework has also remained unchiselled, but in the roof stone we find again the contour and the arching for the kala head. The makaras are also indicated in outline.

The staircase on the western side has also remained unfinished; in fundamental outline, however, the makaras of the staircase wings are here found. Here and there a trace of ornament may be observed, a first beginning. Evidently some external cause or other prevented the sculptor from completing his work.

Still, this gives us a clear insight into the mode of origin of the buildings. We learn how the temple was completely built in smooth stones with the desired profiles; how the parts intended for antefixes, makaras, kala heads, niche borders, &c., were erected in merely rough-hewn blocks, in which only a contour is indicated. In short, we see how at the beginning only the so-called "constructive ornamentation" was applied. Only afterwards came the turn of the sculptor to carry out the so-called "decorative ornamentation."

Chandi Asu yields still more surprises. In all monuments dealt with hitherto, we were able to observe that the distribution of joints in the principal stone-work was quite out of relation with the ornamentation. In the temple now dealt with, we see how special stones were used for the pilasters of the foundation work and the antefixes of the cornices. We think that we may here perceive a stride in architectural technique. The same feature may be noted in the Chandi Prambanan referred to hereafter; here this good principle is carried into effect still more thoroughly and purely, and furnishes an indication which would suggest that the art had attained its highest development. From this again it may be concluded that Chandi Prambanan is one of the later structural works of the Middle Javanese period, a fact which finds support and confirmation in all manner of other things.

We have already said that Chandi Asu only shows a beginning of ornamentation at individual points, but this little displays exceedingly good quality. For instance, we find in the foundation work smooth pilasters with ornament apparently entirely floral, but which on closer investigation is found to be an astoundingly pretty modification of the lion's-head motive.

This modification occurs on other buildings in an identical way. To make it clearer it is pointed out that the first figure reproduces a portion of the lion's head occurring in the niches of Bôro-Budur. In figure 2 the form is most sober; in Chandi Asu (figure 3) it grows richer; at Plaosan (figure 4), overloading begins, but the character of the original type is still maintained. At Prambanan, the degeneration is so great that without the preceding links the traces would become obscure.

We here bid farewell to the residency of Kedu and direct our steps towards the Prambanan Plain.

RUINS IN THE PLAIN OF PRAMBANAN.

The ruins here referred to lie in a plain, on the boundaries of the residencies of Djocjakarta and Soerakarta. The plain is divided by the foot hill of the southern mountain chain into two parts, namely the Prambanan Plain proper and that of Sôrôgedug.

On the map it is indicated by means of various signs which structures are of Buddhist and which are of Sivaitic origin, and it is seen at a single glance how strongly Buddhism predominated here. Among the large groups only one can be pointed to which is Sivaitic, namely, the Chandi Prambanan temple itself. This one structure, however, is the most magnificent in the entire region. Architecturally, perhaps, it occupied first rank. We have also seen that in it the technical art of building has attained a height which is achieved nowhere else. We are also struck by the fact that the ornamentation of Chandi Prambanan also exhibits the best qualities, and we come to the conclusion that in this structure the monumental art of Central Java reaches its highest point.

On a copper plate dating from the first half of the ninth century, the words "The Kingdom of Mataram" appear, from which it is evident that at that time there was in Central Java a kingdom of the same name as that which, after the fall of the Hindu kingdom of Majapahit, was to wield the sceptre over the greater portion of Central Java.

It is noteworthy that all remembrance of that older Mataram has been obliterated, and the Javanese chronicles are silent about it. Hence the history of old Mataram is enveloped in a mystery, on which the few inscribed stones regarding important historical events throw but a very feeble light.

Mr. Yzerman thinks that the princes of old Mataram had their palaces on the spur of the hill dividing the plains of Prambanan and Sôrôgedug. We find remains there, which are called "Kedaton van Ratu Boko," after the legendary giant prince of the Javanese. Everything indicates that what we encounter here is not a temple of worship but a profane structure. A great plateau, paved with stones of gigantic dimensions, still exhibits remains of an old encircling wall, with gates, a bathing place, and a pond. The whole is surrounded by a deep dry ditch, and round about the latter we find the foundations of a number of other smaller dwellings.

The plateau has been but little explored as yet, but the several discoveries, an inscribed stone and some statues, including the Buddha found by Mackenzie, mark as Buddhists the princes who reigned here.

In the vicinity of the old palace, a few grottoes with niches are found, suggesting the abode of hermits. According to Yzerman, the Javanese people believe that this was a place of seclusion, to which the prince retired when some important decision was to be arrived at, a custom which was still in force among the native princes of Djocjakarta and Soerakarta in the first half of the previous century.

But not only Buddhist remains are found on the hill ridge, because eastward of the place called "Kedaton" lies Chandi Tjo, a group of eleven temples which are decidedly Sivaitic. This is evident from the great

lingga, which is found in the principal structure of this group.

The hill ridge here referred to is remarkable in other respects too. We find, for instance, remains of extensive sandstone quarries, in which artificial terraces indicate systematic working in ancient times. Of this sandstone a very ample use was made for the temples in the Prambanan Plain for foundation and interior filling work. The fairly soft and easily-worked stone was well adapted to this purpose; for outside work, however, the material could not be used.

Few people have hitherto taken the trouble to climb the rather steep hill slopes up to the plateau where the mighty old fortress of the earlier princes overlooks the entire surrounding plain. Systematic exploration has never taken place; nevertheless, everything here begs as it were for exploration.

CHANDI KALASAN.

Chandi Kalasan, or Kali Bening, lies in the immediate proximity of "Kalasan," the first station on the Djocjakarta-Soerakarta Railway.

stands there as one of the milestones by which the history of Hindu art in Central Java may be fixed. At the same time, the inscription instructs us as to the purpose of the Chandi Sari near at hand, and this is nothing less than the "cloister for the Mahayanistic monks," mentioned in the inscription.

Chandi Kalasan is in a condition of hopeless decay. The foundations are entirely broken away, and the richly adorned faces have fallen in on three sides. The south side alone still shows the original magnificence of ornament.

With great difficulty, Mr. Yzerman and the skilled draughtsman, Leydie Melville, succeeded in composing a restoration drawing, in which the original form of the roof can also be determined.

The temple is oriented north, south, east, and west, with entrance on the east side. Great figures of temple watchmen now erected in the residency house at Djocjakarta formerly guarded the entrances.

The plan is again square with a projection on each face. The latter, however, is so large that the whole assumes the form of

the kneeling Atlas, and the upper with birds. The divisions on the face are vertically bordered with smooth and ornamented posts, owing to which the rising walls acquire a giant yet slender appearance. In the ornamented borders, just as in Mendut and elsewhere, the recalcitrant spiral rises; this ornamentation is here made so beautiful and angular that it would emerge victorious from a comparison with the best pattern of Rococo.

On the side surfaces of the projections and on the true corners, we find sixteen times one and the same motive repeated, consisting of a deep and immense niche. These niches are crowned with a beautiful kalā-makara ornament, in which the makaras are directed inwards, and above rises a temple motive with celestial creatures. The statues which formerly stood in these niches have all been stolen.

It should be mentioned as a noteworthy peculiarity that in the lower and upper part of these niches we find holes which could have been nothing but the pivoting points of small double wooden doors by which the niches could be closed. The purpose was probably to protect the statues during rain, or outside the hours of temple service against adverse influences. This assumption becomes acceptable when we consider that at Kalasan the entire temple, including ornament and statues, was covered with a stucco coat. Here, too, and elsewhere in Central Java, we may observe that the stucco in interiors was thoroughly mixed with some colouring substance. We think it not impossible that the statues in the niches in question were dressed with a coloured layer of plaster, and for the protection of this latter, wooden doors were fitted. If this supposition is correct, these doors were very probably adorned with artistic carving for the purpose of forming a suitable ensemble with the rich ornamentation in stone.

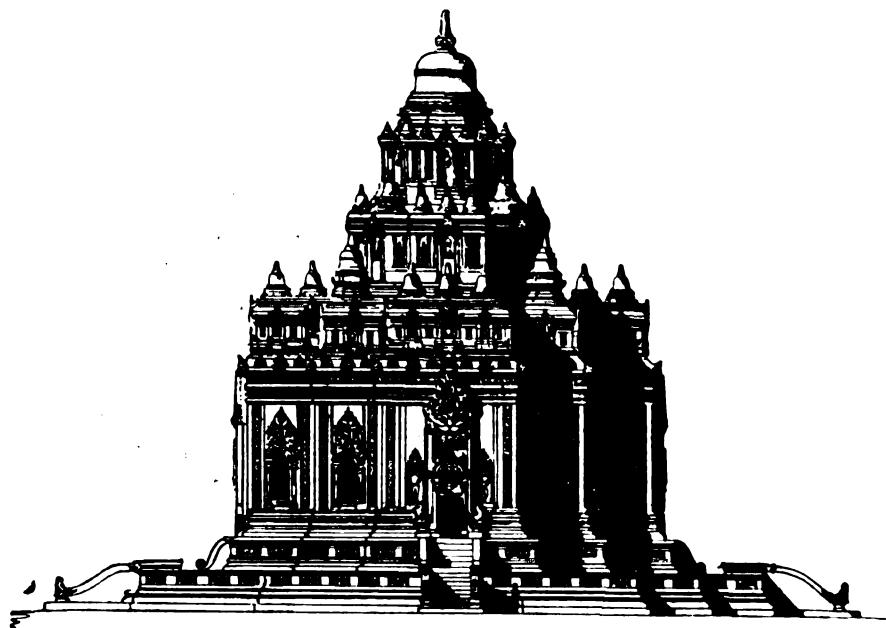
In the central field of the face, we find two niches in which standing male figures are carved out in high relief. They all hold a fly fan in one hand and a climbing stalk with lotus in the other hand. They have no prahbas, but it is possible that these may have been applied in plaster and have now disappeared. Remarkable again is the crown work in which the crowning kalā head, with the expression of a satyr, is enclosed in a circular border with beaded edge.

The narrow gateway opening in the centre of the face is topped by a beautiful capping piece whilst resting on pilasters with carrier dwarf capitals. Round about the latter as a second border appears a kalā-makara ornament, which is the chief item in the adornment of the face. The kalā head seems to us rather too big, but is in itself a very interesting piece. Out of the corners of the mouth, rampant lions appear, and above them rises a wreath of tender "apsarases."

Above the cornice rises the roof in three storeys, of which the uppermost is crowned by an enormous dagoba. In the first storey the plan of the temple body proper is represented; the second and third are octagonal. In all storeys there are niches, of which only a few are furnished with their Dhyani Buddhas.

The roof adornment of Kalasan reminds us to some extent of that of Mendut, but in this latter the octagon only begins at the highest storey. Just as in Mendut, the cornices of Kalasan are adorned with strings of dagobas of various sizes.

We now enter the gateway which gives access to the great inner chamber. In that



CHANDI KALASAN IN ITS ORIGINAL STATE.

(Sketched from a drawing by Leydie Melville.)

This is one of the few structures with regard to the history and purpose of which just a corner has been lifted of the mysterious veil in which all is enveloped. In the closest proximity, a stone was found which records in "Nagari" characters the history of the foundation of this temple. On this stone we read *inter alia*: "When seven hundred had passed in the Saka era, the prince, in order to do homage to his teacher, after a wager (?), founded a Tara temple. The village territory of Kalasa was given to the temple." Mention is further made therein of a "statue of the goddess" to which the temple was dedicated, and a "cloister for the monks, those who know the great car of the Discipline (=Mahayana)."

No trace was ever found of the statue of the goddess, as the throne in the principal chamber is empty, and we do not know, therefore, who the chosen "Tara" was. Nevertheless, the year of foundation, 779 A.D.,

a Greek cross, with projecting corners. Staircases, adorned with the kalā-makara ornament, led to the upper part of the base, which left clear a broad circuit about the temple body proper, the outer side of which was bounded by a low balustrade.

About the principal chamber there are grouped four capellæ, the eastern of which at the same time serves as a gateway. The basement has mainly disappeared, but at one place it may still be seen that the frieze was adorned with sculptured panels; these exhibited a vase in which luxuriant ornamentation was developed on the well-known lines.

Let us devote our attention a moment to the adornment of the southern face. The base and corners are possessed of heavy profiles of a more composite character than is usually the case. In the corners, indeed, we find not one but two frieze bands, the lower of which is adorned with figures of

gateway, the roofing of which has entirely disappeared, the side walls have three niches for statues. The walls of the principal chamber are entirely unadorned, and the throne where once sat a Tara statue, to which this temple was dedicated, testifies to great simplicity. In the throne back we find the ordinary motives of the throne of the gods in the form of elephants, lions, and makaras. As at Mendut, a small service staircase leads upwards to allow of placing sacrifices. Each of the side capellæ once had three images in the rear wall, and one in each side wall, so that this temple originally numbered twenty-one smaller statues in addition to the great Tara. The fact that none remain indicates a well-organised system of plunder. There can be no suspicion of destruction by those of other faiths, as in that event fragments would be found in the vicinity.

In the southern capella sits a female image, with lotuses in both hands, above the beam over the doorway. This is probably a representation of the Indian goddess of fortune, Sri, whose image we so often encounter in the region of Prambanan.

In the ornamentation of Kalasan we find, in addition to excellent specimens, some parts which are less successful. This includes *inter alia* the alto-relievo sculptures in the niches of the outer wall and in the panels of the basement. Yet this want of appreciation disappears when we learn that the ornament of this temple was intentionally left unfinished by the sculptor, to be finished by the stucco worker. The less successful sculpture work, therefore, appears to be the part where the former plaster layer has disappeared.

From the architectural point of view, Kalasan in its original condition must be classed among the masterpieces of Central Java. The architecture is not overshadowed by the ornamentation, and in the horizontal and vertical dispositions of plan, remarkable qualities are observed which ensure an unusually beautiful shadow effect.

CHANDI SARI.

Chandi Sari, with the Mendut temple, belongs to the best preserved monuments of Central Java. The basement and the portico have, it is true, fallen away owing to neglect, but the ornament of the faces has been fairly well maintained, and, what is more, the entire roof has remained intact, with a part of the original roof ornamentation. Leydie Melville succeeded in making a drawing of its original condition.

It has already been stated above that Chandi Sari formed the cloister for the Mahayanistic monks mentioned in the inscribed stone of Kalasan. The distance between the cloister and the last-named temple is not more than three-fourths of a kilometre.

This is one of the few structures with a second floor. The second floor was the dwelling place for the monks; the first floor was intended for divine service, as we still find remains of altars, upon which originally statues stood.

From the plan it is seen to be divided into three compartments, which plan is repeated in the highest storey; in the interior, we see distinctly the holes where the ends of the wooden beams were inserted on which the floor once rested, and the traces of a stone staircase which led upwards can also be detected. That the topmost floor was used as a dwelling is evident from the fact that in the window openings there are still rabbets visible against which wooden shutters at one time closed. The window apertures in the

lowermost floor exhibit holes, which point to their having been shut off by means of wooden or iron balusters.

The instances of cloisters with lower floor intended for religious service are very frequent in Nepal.

The façade is, just as in Kalasan, directed towards the east. On a basement nearly 2 metres high, the structure rises with simple rectangular plan, which had only one projection in front of the portico that has now entirely disappeared.

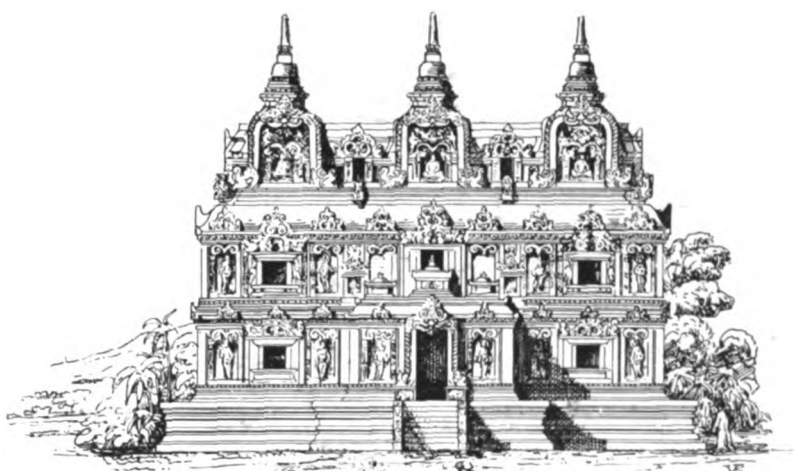
The cornice on the first floor stretched regularly out over the outer structure. On the first floor, the face recedes somewhat; this floor is of less height, and this produces a very happy division of the plan. This successful distribution is found again in the whole of the outside ornamentation. For this ornamentation only one structural motive has been used, which is repeated each time on the four faces in the two floors. It is a simple square window opening with coping piece, flanked by vertical panels with standing figures in high relief. This motive is repeated three times on the façade in the rear, and twice on the side faces in each floor. On the side faces, the last is a dead window, and on the rear face all window apertures even disappear to make

The distribution of the antefixes on the cornices is again highly successful. Small in number, they are bold pieces of adornment, each time placed on the Bodhisatva panels; for this reason, the comparatively low divisions of the building faces appear somewhat gigantic, and the restfulness and harmony result which constitute the chief charm of the architecture of Chandi Sari.

The same happy distribution prevails in the ornamentation of the roof. Here, too, it is one motive repeated each time, ornamental in design, with little accessory work. Thus the architect of Chandi Sari has left us a structure with sustained restful distribution, which, in spite of its modest dimensions, has a distinctly monumental appearance.

The ornamental motive above the cornice of the roof consists of a deep niche with makara crown, supported by pilasters with dwarf carrier capitals; above them hover angels, and the whole is bordered by a kalāmakara ornament. These architectural adornments are separated by other receding niches with lower crown.

The chief niches on the side faces are of little height, but for the rest the adornment remains uniform along the whole roof. Not a single statue has been left in all these niches,



CHANDI SARI IN ITS ORIGINAL STATE.
(Sketched from a drawing by Leydie Melville.)

way for a decorative panel, on which a face is chiselled, with luxuriant spiral ornamentation.

The window cornice is exceedingly beautiful. It takes the form of an enormous antefix adornment in which the makara ornament plays the chief part. The shield occurring in each antefix here terminates in beautiful sculptured makaras turned outwards; inwards, the same ornament is developed, but in modified form. The cornice is borne by pilasters, and between them the window is flanked by a male and female kinnara figure.

The standing figures in the panels on both sides of the windows represent Bodhisatvas, male and female in turn, with very varying attributes, all in the favourite elegant pose, resting on one leg, with strongly projecting hip. It is regrettable that many of the attributes have become almost unrecognisable, which will render later identification very difficult.

The central window opening on the second floor of the façade is placed somewhat higher, and here, too, the sculpture is wanting in the side panel. This is in keeping with the fact of the portico being in front, the cornices of which, of course, shut off this part from view.

but we can assume, with fair certainty, that in this highest row Dhyani Buddhas had their abode.

The roof rises aslant up to a broad flat in the direction of the longitudinal axis. Here arose three footpieces with dagoba crowns, which once lifted their slender spires high into the sky.

Ornamental makara gargoyles discharge the water at the corners of the cornice and between the principal niches. A Brahma figure sits astride on the body of the gargoyle, and beneath it are two intertwined snakes reminding us of the element in which the makara, the sea elephant, is at home.

Chandi Sari has withstood the ravages of time in a wonderful way. Built up of volcanic rocks, it has defied eruptions of the surrounding fire-vomiting mountains for eleven centuries, has mocked the destructive influence of tropical plant parasites, and the sacrilegious hand of the vandals who demolished the sub-structure and stole the images. The roof, which in oblique terraces arches over the inner chambers, has been displaced only at one point, and appears indestructible.

This is the moment to lay stress on the excellent constructive principles by which the Hindu architect in Java was guided. Building in a highly volcanic country, in a region where the surrounding volcanoes caused periodical earthquakes, he perceived that he must avoid arched constructions proper with radial joints, with which he was surely not unacquainted in view of their use in India proper. Thus the walls were guarded against side pressure, which involves such fatal consequences during earthquakes.

The vaults, piled up in horizontal layers, only gave vertical pressure on the walls, and are applied in such a way that each component part was in a condition of stable equilibrium, and formulæ were unnecessary during construction. The falling out or rending of one or more arched stones, therefore, in no wise affected the cohesion of the whole.

On the other hand, this principle of necessity prevented them from creating great vaulted structures, which are only feasible when radial joints are applied. At Chandi Kalasan and Sari, in truth, we saw how the tendency arose to divide the plan into smaller spaces, each of which could be independently roofed. We shall find this system again in the principal temple of Chandi Sewu, the cloisters of Plaosan, and the great Siva temple of Prambanan.

In dealing with Chandi Pawon, Bôro-Budur, and Kalasan, the use of plaster has already been described. Chandi Sari is likewise practically entirely covered with a stucco layer, and we find stucco used in all large temples in the Prambanan region. As we have said, the stucco was not only applied to smooth wall faces, but likewise to all ornamental and sculpture work.

We may call this a strange fact, because in Bôro-Budur and Pawon all sculptures bear the impress of having been completed. Everything has been treated by the sculptor with the same love. We receive an impression, therefore, as though the application of stucco might have been carried out by a later generation, which perhaps in this way endeavoured to conceal from the eye the marring effect of the joints. It may also be that in this way they thought to set bounds to the action of atmospheric influences, manifesting itself in the form of mosses and algae on the outer surfaces.

But at Kalasan and Sari we perceive that the application of stucco is on an entirely different basis. Here it was consciously done by the architects themselves. The object from the outset was to cover everything with plaster. The whole of the sculpture testifies to this. Many an ornament, many a statue is not finished as it should be. The sculptor found it unnecessary to carry out his work in all the fineness of detail. Everything was dealt with more in outline, because the final touch would be given by the plasterer.

This is distinctly seen at Kalasan more than elsewhere; where the stucco has fallen off, for instance, we see the crown of a statue reproduced in the rough like a coarse sugar loaf, and adjoining it where the plaster is retained we see a similar crown entirely finished with the rich adornments which the part required. This instance can be confirmed by many others. The plasterer, working on the outlined sculpture work, completed and gave the final finished form to it in a similar way to that in which wooden furniture of the Louis XVI. style, fashioned in rough wood, was outlined with an artistically applied paste.

At Bôro-Budur the traces of stucco show poorly developed technique or faulty treat-

ment; the plaster is applied in a single layer, is rough, and not homogeneous, and has remained adhering only here and there.

At Kalasan, practically the entire temple is still covered with the stucco, and everything indicates that the work was carried out with the very highest art. For eleven centuries, the plaster has stood exposed to wind and weather, and here and there it seems as though it had been applied yesterday.

It should also be stated that stucco is sometimes used in Central Java in a specific colour. At Kalasan and the Siva temple of Prambanan, a warm ruddy tint can still be distinctly recognised.

It will be readily conceived that polychromy, which at all times played a great part in the ornamental art of Southern and Eastern peoples (Greeks, Egyptians, Assyrians, Persians), and was in use still farther eastward on the Asiatic Continent for internal and external adornment of temples, was resorted to in this instance likewise. The pigments used, however, do not appear to have been of so permanent a character as in a number of Greek temples, for instance, the Parthenon and Propylæ at Athens.



CHAITYA OF CHUPU WATU IN
RESIDENT'S GARDEN, DJOCJAKARTA.

Perhaps some connection must also be sought here between stucco work and polychromy. Just as in the oldest Greek monuments at Pergamon, in Sicily, and in the "Burcht" temple at Athens, the use of porous limestone and trachyte, which were unsuitable for receiving coats of colour, gave rise to the application of a suitable ground for colour in the form of white stucco, so here in Central Java the plaster art may perhaps owe its origin to the same circumstance.

In the later Greek temples, the consistent use of stucco disappeared, when a better material, marble, replaced the old porous building materials; the colour could be applied direct to marble. In Java, however, there was no other material than highly porous trachyte available.

THE CHAITYA OF CHUPU WATU.

Not far from Chandi Kalasan lies the desah of Chupu Watu, where formerly a

number of building remains were found, chiefly of Buddhistic origin. In 1851 a remarkable stone monument was excavated there and conveyed to Djocjakarta, where it now adorns the garden of the Resident's house. Here a great collection of antiquities may be found originating from the environs and chiefly from the plains of Prambanan and Sorogedug. It is regrettable that in many instances the precise place of origin is not known.

The monument here referred to is known under the name of the "Chaitya van Chupu Watu." The crowning piece of the work is wanting, and it has a height of about 3.5 metres. The pedestal is octagonal, and in the foot profile shows a string of tortoises. The frieze is ornamented with singhas, flanked by standing figures. In a higher band, we find fluttering birds, and above them a crowning fillet with an antefix motive, and on either side small panels containing three figures. Then standing loosely upon this is a round lotus pillow, on which again rises a beautiful column having sixteen angles, the form and adornment of which are in agreement with those of a gigantic dagoba, and stamp the whole as a "chaitya." Characteristic above all, is the four-cornered coping stone with figured profile on this chaitya. The latter has the classical form of the pillars with which all old chaityas, for instance, in Nepal and the Swât territory are crowned, and agrees with that of the representations of stupas on the reliefs in Barhut and Sanchi. On this tee, as the English archaeologists call it, there should be also a crown piece with one or more sunshades. Unfortunately, this has been lost, but the recess in the top piece shows that this crown was not wanting here. This chaitya is furthermore remarkable because the sixteen-angled dagoba is entirely covered with a coat of stucco on which the ornament is applied. The whole consists of three pieces standing loosely on each other, and we regard it as not impossible that an open space was left within intended for the preservation of relics. We were not in a position, however, to ascertain this by closer examination.

CHANDI SEWU.

Chandi Sewu is one of the most interesting Buddhistic temple groups of Central Java. The Javanese name, "the thousand temples," may give an exaggerated idea of its extent, but this group does, in fact, comprise by far the largest number of structures of all groups of temples of Java.

Round about a principal temple there are ranged four rows of smaller structures. The first two rows lie in a perfect square, and number respectively twenty-eight and forty-four temples. Separated from these by a broad court follow the third and fourth row in the form of rectangles having eighty and eighty-eight structures respectively.

In the court we see the foundations of five larger temples, but very probably this number was originally eight, and thus we reach the respectable total of 249 structures, which cover an area of about 165 by 185 metres. Still, this does not complete the group, for about 300 metres distant from the principal temple there were formerly four large approach temples, approximately opposite the four chief entrances to the entire group. Unfortunately, these outer temples have practically disappeared. Of the southern, one alone, Chandi Bubrah, there still remains the beautifully adorned basement and a small portion of the interior chamber.

The group itself has not fared much better.

The principal temple is in a deplorable condition. The roofs of the principal chamber of the four capellæ have all vanished. Of the 240 minor temples, only a few have remained practically intact. The principal temple has been entirely laid bare, but for the rest the earth still spreads its mantle over the whole of the ground, so that the small temples are sunk into the soil to the depth of a metre. Still a great charm emanates from this impressive devastated city of temples, with its alleys of mutilated and crumbled sanctuaries. Here and there, a solitary Buddha statue raises its mangled and heavily moss-grown trunk above the soft green carpet with which everything is clothed.

The charm of the ancient is yet further enhanced by the entrancing surroundings. Approached from the southern side the capricious ruins of the walls stand out against a grandiose panorama with the charming and elegant silhouette of the Merapi, vomiting its eternal smoke in the rear-ground.

The oldest view of Chandi Sewu dates from 1806 and 1807. Lieutenant Engineer Cornelius made the first drawings, still preserved in the museum at Leyden. The description, unfortunately, has been lost.

Later particulars are given by Baker (1815) and Brumund (1854). The description of the latter is fairly complete, and testifies to great powers of observation; the essential completion of this description (good drawings) is wanting, however.

The principal temple rises in the middle of a raised plateau paved with stones, surrounded by a low balustrade without gateways. Eight gargoyles discharge the rain-water on the low-lying terraces of the first and second row of temples. The plan shown somewhat coincides with that of Chandi Kalasan, and exhibits a principal chamber with four surrounding capellæ, the eastern of which at the same time serves as a gateway. There are, however, some cardinal points of difference. At Kalasan, the basement, shut off by a balustrade, runs round the entire temple. Here this circuit only lies round the central structure wherein is the principal chamber, and the balustrade thus runs dead against the side walls of the four capellæ. In this way, between the capellæ and the central structure, four vestibules are formed with their separate roofing.

As a second great point of difference, it should be stated that at Kalasan the roofs of the capellæ form one whole with that of the central structure, whilst here the crown work of the cellæ were independent and were lower than that of the main body, which rose in the centre like a tower.

Still it is no longer possible to give an exact representation of the original condition. The oldest drawings of Cornelius and Baker are unreliable, and in the great earthquake which devastated Djocjakarta in 1867, the roof of the central chamber collapsed.

The base exhibits the usual profiles, and has frieze with panels flanked by pilasters; these are all adorned with an antique base from which a lotus bunch develops on the usual spiral lines. On examining the basement more closely we perceive, just as at Kalasan, that there are everywhere still traces of an old plaster layer, and we even observe that large surfaces have been worked with the granulating hammer in order to give the stucco a better hold. We are immediately struck by the fact that here the plaster was of inferior quality, and was not applied with such masterly skill as at Kalasan. We likewise do not find, as we did at Kalasan,

such distinct traces of sculptures having remained unfinished, with the object of finishing them with stucco.

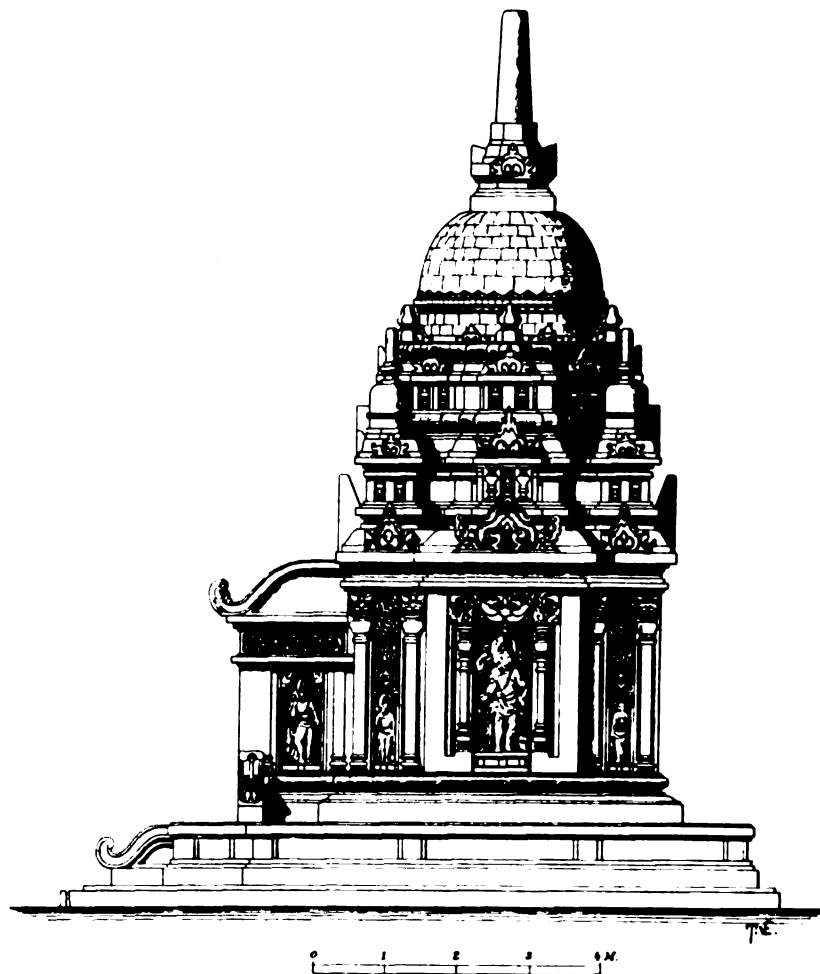
The balustrade which bounds the circuit round the body of the temple is externally adorned with sculpture, in which we find figures dancing and playing music. The crown of this balustrade is entirely gone, but it is clear from the fragments that it was originally ornamented with a festoon of small dagobas.

The rain-water falling on the circuit was drained beneath the balustrade by eight makara gargoyles. These are very simple; just as in the makara gargoyles of Chandi Sari, a male figure here sits astride on the body of the spout.

and here, too, just as at Kalasan, an octagonal roof storey formed the transition to the round dagoba coping.

On the ground among the fragments from the ornamentation of the roof, there are numberless antefixes, great ornamental pieces in which small niches are hewn, filled with a head or bust. With regard to this motive, the necessary particulars were already given in describing Chandi Bimò on the Diëng Plateau.

We are still able to form a fairly complete idea of the external ornamentation of the capellæ as far as the cornice. The side walls are divided by beautiful pilaster ornaments into a broad central panel and two small side panels, all decorated with wall patterns in



CHANDI SEWU: ONE OF THE SMALLER TEMPLES.

(Sketched by the Author from the plan by Leydie Melville).

Of the outside wall of the central structure there is not much more to be said. Above the high face we see the traces of two high unadorned niches at each of the corners. Perhaps standing figures were originally in these. It will probably always remain an unsolved problem what was the adornment of the cornice and above. It is certain that in the crown work the dagoba played a great part, because among the fallen fragments we find this motive very numerous and variously repeated. From the drawings of Cornelius, it is further evident that above the cornice there were niche adornments,

very low relief, but executed with particularly good taste. The central panel is filled with circular discs, in which, in addition to floral motives, animals are depicted, namely, lions and stags. They remind us, as Mr. Yzerman remarked, of the disc adornments of the "rails" of Amarawati.

Above rises a kala-makara ornament, also in very low relief, which, with its inward directed makaras, rests on the slender side pillars, and is treated in exactly the same spirit as the like adornments on the outside walls of the Mendut temple.

The side panels show an entirely different

but no less beautiful adornment, floral, one might say, in composition. Mr. J. Knebel, a member of the Permanent Antiquities Commission of Java, thinks that here we have to do with an extremely interesting modification of the so-called "triçula-chakra ornament," which in its original ancient form is repeatedly depicted on the oldest Indian monuments, such as Barhut, Sanchi, and Amarawati.

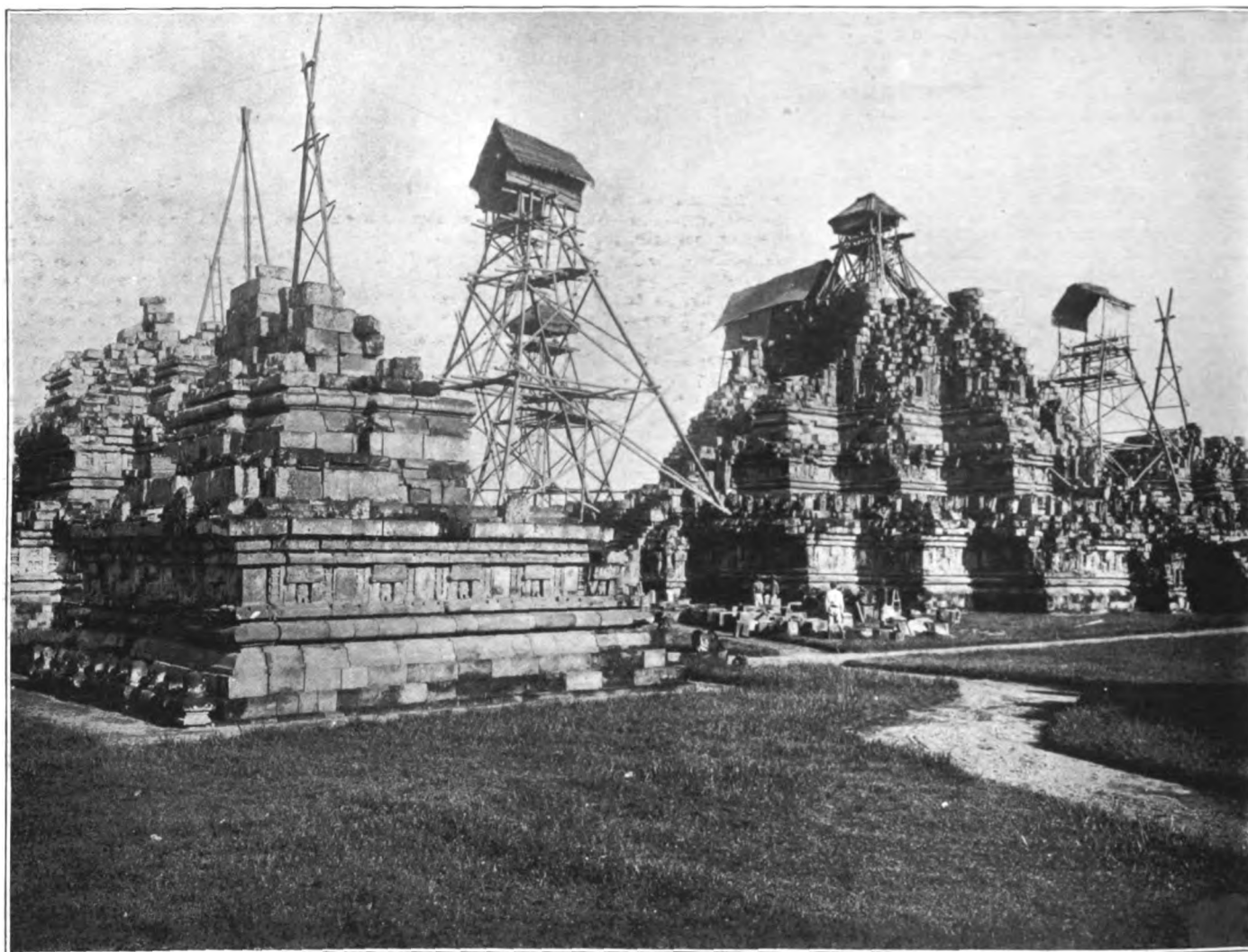
In its modified forms, this ornament plays an important part in Java, as we find it again in the external adornment of the Plaosan cloister group, and in the inner chamber of the Siva temple at Chandi Prambanan, and in an altered form at Mendut

surprising sight. The architect here gives us something new, something individual, because the division of the plan with the circuit about the central structure, and the capelle with independent roofs, all constitute something unique in Central Java.

The fresh charm of the novel likewise lies in the work of the ornamental artist. Elsewhere we have hitherto, in the great structures, seen the outside walls allotted to the various figures which play an important part in the Mahayanistic pantheon. Here we find only a few niches in the principal body about which we could at most say that presumably statues stood in them. For the rest, however, leaving the roof ornamenta-

The makaras are very remarkable. Customarily, however, the figure seated on the tongue of the makara, whether a lion, a bird, or a human being, is an independent ornament, depicted in its entirety, sometimes with some humour in the type; but for the rest with little action. Here, on the contrary, it is a human figure, which, as it seems, is engaged in making its way forward out of the open jaws of the makara; the lower part of the legs are still hidden from view, and the face is directed inwards towards the entrance where the believer mounted upwards.

We now enter the eastern capelle. The gate ornament has, like that of all the other cells, fallen in, but the remains again point



CHANDI PRAMBANAN.

(The Siva Temple during the restoration of its chapels.)

and Bôrô-Budur. In the side panels here referred to, the pilasters are also crowned with the kalâ-makara ornament, but entirely modified. The "triçula-chakra" panels are also applied to the ornamentation of the front walls of the four capelle.

Glancing back on the entire external ornamentation, it should be remarked that the tasteful, peaceful, low relief ornaments and the happy distribution of compartments exhibit the architect and sculptor of Chandi Sewu at the best of their powers. The principal temple is in truth a gladsome and

tion on one side, the external ornamentation has remained purely decorative, and the gods are stationed within the sanctuary exclusively. It will cause us no surprise, therefore, when we learn later on that there was a congenial density of population within; apart from Buddha in the central chamber, there were no less than forty-nine statues looking down on the pious pilgrim. The staircases that led from the temple ground to the four capelle have all been practically destroyed, but the fragments of the kalâ-makara ornament can still be seen everywhere.

to the infinitely repeated kalâ-makara ornament.

The side walls provide us with a new surprise. We see an unknown pretty adornment consisting of three niches covered with Tudor arches; indeed a surprise, because the pointed arch is a rare thing in Java. How beautifully it is here applied with its flame-edge ornament, which in the spandrel tapers into elegant pointed motives!

The support of the arch is likewise remarkable. The shaft of the pilaster rises up from the basis, which was designed as

an antique vase with a lotus bouquet, and bears a lion's head capital in magnificent style.

The middle niche was apparently intended for the chief statue of the trinity which once stood proudly here, as it was placed higher than the two satellite statues in the side niches. The beautiful pedestal is superabundantly, and yet not unpleasantly, filled out by a vase with lotus bouquet, shells which likewise act as flower vases, offering cups and ewe lambs.

In the four corners of the capellæ there are plain pedestals on which once sat statues now all lost. The roof of the cella has disappeared. We may here take leave of the four capellæ as they are all perfectly similar to the gateway; the outer gate alone of this latter was wider and more ornamental than that of the three others.

We now make the prescribed circuit, and before going up to the holy of holies, traverse the vestibules lying between the main body of the temple and the four cellæ. On the south-eastern corner may still be seen that narrow gateways give access to these vestibules, and we here find once more a part of the external ornamentation of those gates. Beneath the kala-makara ornament, there were the same figures with lotus flowers in the upraised hands which were found above the doors in the cellæ of Kalasan. In the inner wall above the high base three gigantic niches are cut out, separated by pilasters with cup-shaped capital, and, beneath the latter, squatting carriers. These niches are covered with a composition of fillets and a crown piece, which give the whole the appearance of a small temple. Just as in the niches within the cellæ, the centre one is provided with an adorned pedestal, and is thus intended for the chief statue of the corresponding trinity.

The roof of the vestibules is remarkable. We find in the vault the same pointed arch as in the niches of the capellæ, and in one place it can still be seen that the extrados of the roof also had this form. The roof of the outer structures, therefore, joined the centre structure by means of an arched span roof.

We now return to the eastern vestibule in order to pass on to the principal chamber. The framing border of the gate must once have been particularly beautiful; the kala head has disappeared. The makaras and the rising fillet with flame edge, however, have been well preserved. This is lucky, as we are face to face with one of the jewels of Hindu ornamental art, fully worthy of being brought under the notice of the many who now devote themselves to decorative art.

In the makara jaws, a parrot is seated on the tongue. Tusks and molars are worked into curling leaves. The eye has been modified into an elegant spiral, but the animal character is still seen, nevertheless, from the folds of skin about the eye peculiar to the elephant. The trunk is also entirely modified, and, what is unusual, curls forward, but nevertheless develops in a volute directed backwards. The lotus flower which always makes its appearance out of the trunk we do not see, but the seed bunch indicates its place. Indeed, this is a masterpiece of ornament, an extremely refined and yet an excellent modification of the animal makara head.

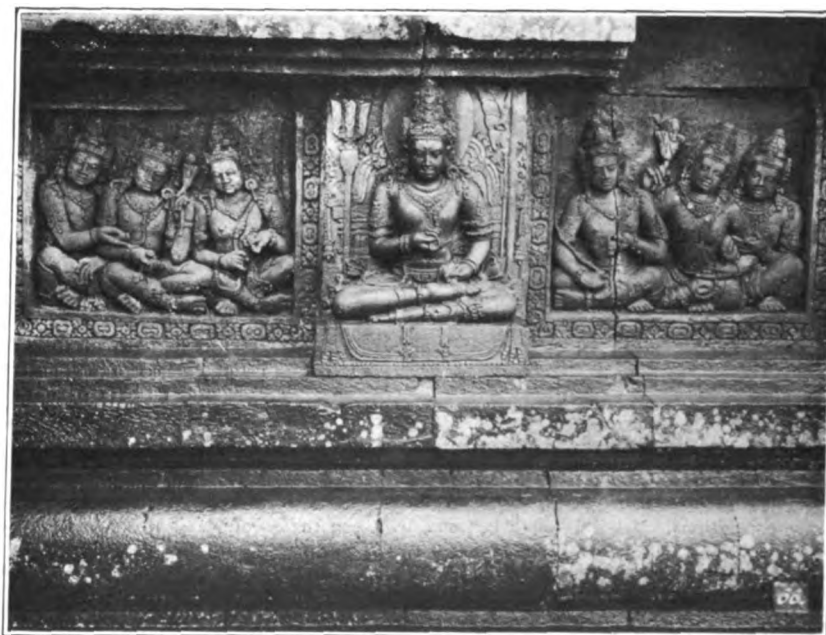
The stairway leading to the principal chamber terminates in a heavy stone threshold, and it can still clearly be seen that there was originally timber work here with double doors opening inwards. These doors were also to be found in the outer gates of the capellæ, and in those of the vestibules.

We have now approached the inner chamber, a space of about 5½ metres square. Everything here breathes great simplicity. Unadorned walls rose up, and from the oldest drawings, although these are all in conflict with each other, we may still gather that the principal cornice and the arch, now disappeared, were also without ornament. This arch originally rose by projecting shelves; then followed a square vertical hollow passing into an octagonal arch. The transition to the octagon was made by consoles in the corners of the square.

The inner chamber, just as in the Mendut temple, was practically entirely occupied by the throne. This was also extremely simple. The back still bears the remains of a pilaster adornment, and on it rested the two makaras of the throne rail. The elephants and the rampant lions, which must be counted among the customary throne motives, were wanting.

Which image here occupied the place of honour? No trace of it remains, but we may with pretty great certainty take it to have

fore, presumes that the statue was made of another and more precious material, that it was a colossus of bronze, which was destroyed and smelted by degenerate posterity. He finds the more reason to suppose this inasmuch as the art of casting and working bronze formerly attained a very high degree of development, as is evident from the splendid collection in the Batavian Museum. In the latter, it is true, all is art on a small scale, but large statues were also made. This was made clear by an interesting find during the process of laying bare the Chandi Sewu principal temple. There in one of the capellæ a bronze finger was found belonging to a statue, which must have been much bigger than the ordinary Dhyanî Buddhas found in the minor temples, and which have the same dimensions as that of Borô-Budur. But this finger, again, was too small for the principal statue; yet it showed that bronze technique in Java, in that period long since flown, when it flourished, was capable of casting statues of more than life size, and



SIVA TEMPLE OF CHANDI PRAMBANAN.

(Frieze decoration of the basement)

been a Buddha. Dr. Brandes, in a detailed argument, has shown that there must have been an enormous statue here, much larger than the colossus of Mendut, but not like the latter with hanging legs, but legs folded beneath the body. Then, after a very logical exposition, he has put forward the assumption that the principal statue at Chandi Sewu must have been of bronze. The following is, in brief, his train of thought:

The dimensions of the statue can be determined approximately by reconstructing the throne, and by comparison with the Buddha seat in the Mendut temple. These dimensions are so great that the colossus, presuming that it was of stone, could not possibly have been carried away whole, as the doorways would not have allowed this. The stone statue might have been destroyed, but then surely one or more fragments would have been found in clearing the principal temple, and this was not the case. Dr. Brandes, there-

presumably, therefore, was capable also of creating a bronze colossus for the principal chamber. On similar grounds, Dr. Brandes arrives at the conclusion that the principal image of Kalasan was an enormous bronze casting.

Before leaving the principal temple, it should be observed that very considerable alterations had taken place in this structure. This is a fact observable in a number of Hindu temples; indeed, a fact as old as the world, which is found again and again in all our old Western cathedrals.

We have already referred to the addition to the small Chandi Selô-Grô which arose from the need for placing two gate watchmen next to the main entrance. We have stated that the roof of the Mendut temple has been altered by the application of a coat round the original roof ornamentation. At Borô-Budur and Kalasan, some later added structures may also be observed, but nowhere

are they so important and so interesting as in this principal temple of Chandi Sewu. The limits of this treatise do not allow of their discussion in detail; a few principal points may be noted.

In the sketch representing the plan, the structures added later are shown. They are of two characters. Those in the corners of the four cellæ arose simply out of the necessity for enriching the temple with sixteen statues. For this purpose pedestals were built against the original bases, with identical moulding. We do not know what figures were placed here, for none of the fifty statues of the interior have remained, but that the need was felt for this enrichment does not seem strange if we remember that on the outside walls of the cellæ there was no space allotted for the personages from the pantheon. We should perhaps be able to compare this enrichment with a gift, a legacy such as so often falls to our Western cathedrals.

Of more original a character were the later reconstructions, in particular those at the gate of the principal chamber, the inner and outer gates of the cellæ, and those of the vestibules. These are at the same time more enigmatic, because with regard to some it cannot be determined whether they arose out of a passion for adornment and enrichment or out of purely technical needs.

With regard to the reconstruction of the gate of the principal chamber, we may be brief; we note the fact that the gate was once narrowed from about 1.70 metres to 1.10 metres, because in the threshold and lintel we still find the points on which the old wide doors and those on which the later narrower doors pivoted. The masonry, furthermore, everywhere shows square holes in which the facing was fastened by means of pins. Still, we do not know what was the appearance of the reconstructed gate as the facing has completely fallen away, and we can only guess what might have been the motive here.

Just as mysterious appears the narrowing of the outer and inner gates of the capellæ. Here the roofing of the gateways has fallen away everywhere, and this makes it hazardous to draw conclusions. Yet it is quite certain that the need must have been very urgent, because in the inside gates you find the wonderful fact that the old masonry, later covered over, was already adorned with carved work.

We think the reconstructions must have been due to purely technical requirements. The reconstruction at the gates of the vestibules give us more certainty on this point. The original roof was apparently deemed too feeble, and beneath the old beams heavier lintels were placed resting on the new revetment. The reconstruction is here very considerable; the gates were narrowed to 63 centimetres. This is accompanied by an entirely new external ornamentation. A new kalā-makara border covers the old one; this facing, however, was applied when the original work was not yet ornamented. We observe the same thing in the external reconstruction of the outer gateways of the four cellæ.

We now proceed to describe the rest of the temple site. Two hundred and forty small temples lie with their entrances towards the four winds of heaven, as indicated by the plan of the entire group. The four principal entrances lie in the direction of the main axes, and are each guarded by two giant temple watchmen or sentinels, which are monoliths 2½ metres high. Kneeling, they hold in one hand a club, and in the

other a hooded snake, and hooded snakes form the upper armlets, the caste cord, and the cord binding the wild mass of hair. In spite of the bulging eyes, the fearful fangs, and the terrible appearance of the entire figure, there is nevertheless something kindly in the lineaments.

The small temples do not lie at the same level. Towards the principal temple they rise up on higher terraces, but the ascent appears to be slight. It will soon be possible to accumulate accurate data on this point, as the Government has already allocated a sum of money for the systematic excavation of the whole of the ground on which the temples are built. The small temples have all the same square plan with a small out-structure as a gateway. Nevertheless, slight differences may be observed in the roof ornamentation, and in the pieces crowning the gateways. The buildings in the same row are almost perfectly identical with each other.

Most of them have fallen into shapeless ruin, but the few fairly well-preserved structures enabled Mr. Leydie Melville to reconstruct the original form of one of the types. The external ornamentation appears to be pretty uniform in all the temples, but careful examination of the attributes of the alto-relievo figures has not yet been made. The gateway crowning piece or cornice is in two rows, the same as indicated on the drawing, but in both the others is identical with that of Chandi Pawon. The roofs all have two storeys, crowned by a massive dagoba, but for the rest represent different types. The temple has an octagonal as the transition form between the square and the circular dagoba; others again show more coincidence with the square or octagonal "Sikhara" form of Dravidian and Indo-Aryan architectures.

Internally, though, all have a simple square cella, mostly with a single pedestal against the back wall. On it sat one of the four Dhyani Buddhas; the second, third, fourth, and fifth, turned towards the east, south, west, and north, respectively.

The first Dhyani Buddha, the ruler of the Zenith, presumably had his abode in the eight large structures situate in the court between the second and third row. In one of these, at any rate, the statue of Wairojana was found. Most of the statues have vanished, and at present there are only some thirty or so still to be found on the site, almost all headless.

Professor Leemans, in his work on Bôro-Budur, has already pointed out how very much the location of the Dhyani Buddhas in the minor temples of Chandi Sewu recalls that of the open niche structures of Bôro-Budur. The former presents us, developed in the same plane, with what the latter exhibits in the open niche structures of the terrace walls. The eight large intermediate temples then correspond to the small niche temples in the highest gallery wall of Bôro-Budur. Some have more pedestals and once contained other statues. Perhaps the impending work of excavation will enable us to form more correct ideas about this. Many exhibit one or more small niches internally; there is one which counts as many as forty-three such niches. A number of these little temples remained unfinished. On the south side we find several, the walls of which are still quite unadorned.

It should be mentioned that on the temple site an inscribed stone was found. This stone was the lintel of one of the gateways, and the inscription indicates that the temples, or perhaps a statue within it, was the gift of a certain person.

The four approach temples referred to above are indicated on the sketch map of the Prambanan Plain, but only of the southern one, Chandi Bubrah, has anything remained. The eastern temple named Chandi Asu was still fairly well preserved about the middle of last century.

The roof had fallen in, it is true, but Mr. Brumund relates that the outer wall bore a magnificent rich adornment. The entrance was directed westward and the interior above all was interesting, as it exhibited a rich decoration of flat ornament, a thing which diverges from the sober interiors of the Buddhist structures hitherto dealt with. Chandi Asu was apparently dedicated to the god of riches, as Brumund found within it not less than four Kuwera statues. Kuwera plays an important part in Java. We have already seen him portrayed in the front gateway of Mendut. On the Bôro-Budur reliefs, he occurs a number of times, and the collection of bronzes in the Batavia Museum proves the predominating position he occupies in small works of art.

Mr. Yzerman has already pointed out that the Javanese conception is identical with that in Neral.

About 1800 only the basement of Chandi Asu was still in existence. Now this has also disappeared, and the work of demolition by the sugar planter in the "principality" has been so energetic that we may seek in vain for the place where this beautiful Kuwera temple once stood.

Of Chandi Bubrah, the southern fore temple, the basement is still preserved, and the entrance facing the east awakens the idea that here an interesting gateway structure must have stood. We shall not describe in detail what is still to be seen, but shall conclude with a brief reference to two extremely remarkable makara types which were brought to light in the excavation of these ruins.

One of these belongs to the gateway adornment, and is remarkable because the traditional elephant's mouth exhibits a trunk which terminates in a snake's head crowned by the jewel. Are we here confronted with an influence of the Naga ornament on the makara? It is certain that in Central Java makara pieces are found in which the makara head can still be found only in outline, and which have otherwise degenerated into three snakes' heads rising out of the waves; and in Ungaran staircase pieces have been found which are converted into a Naga king or a Naga queen portrayed in human form, recognisable by the snakes' heads in the crown. These pieces, again, in their peaceful outlines, suggest the makara, and, in addition, occupy the place intended for the latter in the staircase adornment.

The second makara formed a part of the border work of the principal gateway. Here the trunk has degenerated into the head of a hybrid fantastic being. It is depicted with raised fore paws and lion's mane. The upper jaw ends in a pointed beak like that of a bird of prey, but for the rest we again find in it something of the treatment of the modified lion's head. The ear, the horn laid back over it, and the comb of the mane, here with strong upward turn, suggest it immediately.

This is not the place to enter upon a comparative examination of these interesting makara types.

We merely refer to them in order to give the reader an idea of the endless intergrowths and transformations found in good Indian art in a favourite motive of so venerable an age as the makara.

CHANDI LUMBUNG.

About half a kilometre south of the Chandi Sewu group lies Chandi Lumbung, again a Buddhist assemblage consisting of a principal temple and sixteen minor temples. These minor temples reminded the Javanese of his rice sheds (Lumbung), and from these the whole took its name.

The principal temple has a square plan with a projection on each face. The eastern projection contains the gateway, which has now completely vanished. The basement stood out but little beyond the body of the structure proper, and therefore did not form any circuit. In each of the three projections there was a deep niche bordered with the kalā-makara ornament. The statues of the niches have disappeared. The twenty re-

them are still in fairly good preservation, and in one the roof adornment is still so complete that it is possible, without difficulty, to make a complete restoration drawing. The agreement with the roofs of the minor temples at Chandi Sewu is striking. Here the first roof storey rises straightway in an octagonal on the square basement plan. The second story is also octagonal, and on it rises the crowning dagoba. Both roof storeys are adorned with four slender dagobas at the corners.

Chandi Lumbung, above all in its minor temples, has indications of having remained unfinished. None is completed; the outside walls, it is true, already show division by pilasters, but the figures to be chiselled in alto-relievo from the Buddhistic pantheon had not yet been applied.

All the interiors have wall niches and

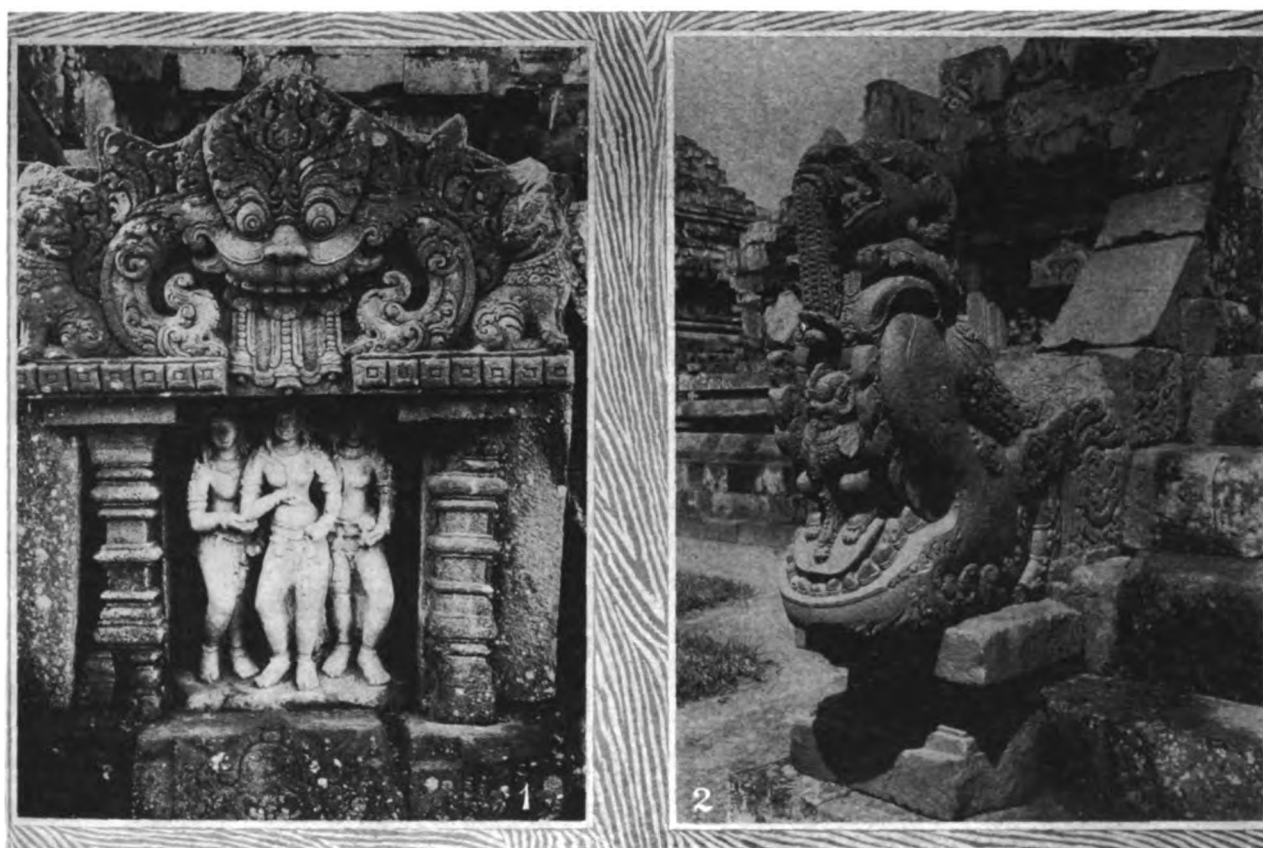
were occupied by other Bodhisatvas, whether accompanied by their Çaktis or not."

According to a report of 1839, the eastern entrance to the group was guarded by two sentinels; of these also there is now no trace.

CHANDI PLAOSAN.

About a kilometre and a half to the east of Chandi Sewu lie the heaps of ruins of Chandi Plaosan, overgrown with alang-alang, brushwood, and even trees of some size.

The description by Mr. Brumund (1854) is the oldest which can lay claim to any completeness. The investigation by Mr. Yzerman (1886) at last threw sufficient light on the purpose and value of this Buddhistic structure. Still, there is here a wide field of work for the archaeologist, as the identification of



SIVA TEMPLE OF CHANDI PRAMBANAN.

1. OUTER DECORATION OF THE BALUSTRADE.

2. MAKARA OF THE BANISTERS.

maining compartments of the face are adorned with kalā-makara crown on pilasters, and, below, standing figures chiselled in high relief with various attributes, concurring with similar figures at Kalasan, &c. The roof has fallen in, but we can still see how it arched by means of shaped stones; according to older reports it started square, continued octagonal, and finally became circular. In the interior there are twelve niches, now all empty.

The sixteen small temples form a square, and have their entrances turned towards the principal temple. They are entirely square, without projections, and have no gateways running outward, but merely doorways surrounded by the customary ornament. Ten of

pedestals for statues, but not a single statue of the entire group has remained. Presumably, therefore, we shall never be able to determine the precise purpose and value of Chandi Lumbung. Mr. Yzerman says as regards this: "Knowing as we do that the Buddha occurs in various mudras with two Bodhisatvas, usually Padmapani and Manjuceri, in the last Buddhistic temples of Western India; that in Chandi Mendut we find a similar representation; that the galleries of Borobudur, the roof of Kalasan, the outer temples of Chandi Sewu and Plaosan are all adorned with statues of the Dhyani Buddhas, there will be little rashness in the assumption that they also at one time had their seat in this temple group, whilst the remaining places

most of the statues still found, and above all of the internal and external sculptures, is still to be done. The particulars given below are partly taken from Mr. Yzerman's excellent description in his work repeatedly cited on antiquities in the Prambanan Plain.

The assemblage of temple buildings is divided into three groups, of which the two northernmost adjoin each other. The southern is divided from the centre temple by a flat open space.

The principal group lies in the centre, and comprises the two cloister buildings, which, like Chandi Sari, were also designed as a temple of the gods. A double wall encompasses the whole, and a dividing wall separates the innermost court into two equal

halves. The entrances to both of the viharas are guarded by sentinels, much smaller than those of Chandi Sewu, but, for the rest, greatly resembling them. We shall only cursorily describe the northern building, as the southern is a faithful copy of it, both inside and out.

As at Chandi Sari, the plan is a simple rectangle, with an out-structure for the gateway, which here, too, faces westward. The interior is divided into three compartments of equal size. The basement has a frieze, which is divided by pilasters into ornamental panels; these exhibit now a geometrical sub-division, with floral ornamental filling; now, again, the well-known rococo decoration in spiral lines. The temple walls rise but little from the ground because the roof fell in during the great earthquake of 1867, and with it a great portion of the masonry of the second floor disappeared. The remains, however, still suggest something of the earlier magnificence of adornment. The two side compartments each had two window apertures adorned with the *kalamakara*, and for the rest all panels were chiselled with the standing figures, which we have repeatedly encountered at Chandi Kalasan and Sari, Chandi Sewu and Lumbung. Bodhisatvas or Bodhisaktis, the various attributes of which still await study. Festoons with prayer bells hang down from the beautiful crowns of the pilasters. Next to the windows, smooth pilasters again provide fresh ornamental motives. The side walls of the gateways bear no sculpture in high relief, but are completely filled with low ornament.

The central section appears as a dead window resting on a tastefully designed pedestal. In the window panel we find the elegantly modified "triculachakra" ornament, which we also encounter on the outer walls at Chandi Sewu.

In the side sections we meet old friends, namely, the panels with the modified lions' heads, described in the Chandi Asu (Kedu).

Everywhere we find traces of the former layer of stucco, but here it is far from being applied with such skill as at Kalasan.

We now mount the stairs leading to the gateway. The makaras on the staircases are of the type which we have repeatedly seen applied at Chandi Prambanan; the trunk is solved in a volute, and on it rests a lotus flower with jewel. Of the ornamental frame of the outer gate not much more has survived than the two makaras borne by squatting elephants. In the side walls of the vestibule proper there are two niches, with richly ornamented images. Above the monster head of the border, two *gandharvas* hover.

Of the border-work of the gateway leading to the middle chamber, the makaras alone have survived, supported by atlas figures with bells in their hands. The three compartments are connected with each other by gate apertures, and all have niches in the side walls, the statues from which have now vanished. Against the back wall, we find the sorry remains of an altar, on which three statues once proudly stood.

The walls of the side compartments are here and there adorned with mezzo-relievo sculpture. The wall of the middle compartments shows no trace of adornment.

As stated, Plaosan was also a building with more than one floor, and above the cornice of the central chambers we find the recesses in which the beams were laid. The upper rooms had doorways and niches in the same place as the three lower divisions. Of course, there were no altars here, as this upper

storey was intended only for the residence of the monks.

From the foregoing it will be seen quite clearly how striking is the agreement between the ruins here referred to and Chandi Sari.

We must revert briefly to the altars with statues in the lower rooms. Here there were originally three figures. The side images are Bodhisatvas, and there are still eight of them, though dethroned and mutilated. They sit like the two Bodhisatvas at Chandi Mendut. "lalitasana," with one leg hanging down and the other folded beneath the body. The hanging leg rests on a lotus pillow carried by a small lion with a bell in its mouth. The ornamentation is peculiarly rich, above all that of the crowns. They are hewn in one piece with lotus cushions and back. This back is chiselled with a halo, and is distinguished from the usual oval *prahla* in Java by tapering to a point. In this respect, likewise, they concord, therefore, with the Bodhisatvas at Mendut.

The central image sat on a higher seat than the two neighbours, and was the principal statue of each group. They have all disappeared, but we need not doubt that here Buddha statues once sat or stood. It has been a matter for some surprise, and rightly so, that it is the Buddhas which have vanished everywhere, and this, notwithstanding that the Bodhisatvas present are among the best that the Buddhists have bequeathed to us in the shape of statues. Indeed, they are in no way inferior in beauty to those of Mendut. Brumund and Yzerman have endeavoured to explain this by pointing out that these statues, owing to their smaller size, were easier to carry away than the Bodhisatvas. This, in truth, may have been the reason, because remains of the lotus cushions of the Buddhas actually prove that the latter sat or stood loosely on the cushion, and that they were made of moderate dimensions.

Yet we think we may bring forward the objection that the plunderer had an ample choice of Buddha statues outside the two cloister buildings. Here in the middle and south group there were originally fully seventy dwarf temples, each with a Dhyanī Buddha, which was easily transported, and in all likelihood not inferior in beauty to the Buddhas in the cloister buildings. It was probably not the beauty of the statue which was the decisive point, because in that case some of the masterly Bodhisatvas would have been carried away. We are disposed to assume that the Buddhas here in question have all disappeared without a trace because they were made of more costly material, for instance, bronze, and that, just like the principal statues at Kalasan and Chandi Sewu, they ended their career in a vandal smelting crucible long before the first Europeans trod the ground of Prambanan.

A long digression or description in connection with the Bodhisatvas still spared would only be justifiable if we were in a position to give good illustrations of all of them. As we have no such illustrations we confine ourselves to repeating the remark of Mr. Yzerman: that apparently the same Bodhisatvas were found in both temple buildings in the like places.

It may be observed, furthermore, that in the central chamber to the right of Buddha, Padmapani stood, recognisable by the Amit image in the crown. The statues on the left side have disappeared from both buildings or been made unrecognisable, but if tradition is here maintained possibly place may have been found for Manjucī.

The left statue in the southern chamber, characterised by a book on the lotus and a moon-shaped sickle behind the head, also occurs in the southern niches of the gateways.

Maitreid, the lord of the future world, is apparently also represented. At least, we think we recognise him in the right hand statue of the northern chamber in the crown dagoba.

We are now leaving the site of the two cloisters in order to take a view of the smaller surrounding structures.

The first row consisted of fifty square dwarf temples, the entrances of which were turned away from the principal buildings. In each of them a Dhyanī Buddha originally sat. Of these Mr. Yzerman still found thirteen.

The two outermost rows exhibit circular pedestals covered by a lotus cushion. Statues were not found on them, but in the vicinity crown pieces are found, which suggest the pinnacle of a dagoba. The dagoba body proper has not been left intact anywhere, but Mr. Yzerman has no doubt that we are here confronted with the small stupas erected upon the ashes of Buddhistic priests or other venerable believers. Chandi Plaosan is, therefore, a temple, cloister, and cemetery simultaneously, a combination of purposes which is also encountered in many structures in Western India.

At the corners of the two strings of stupas there were dwarf temples with Dhyanī Buddhas.

The northern group consists of a walled-in terrace, in turn surrounded by the circular remains of former stupas, lying in one row to the north and south and in three to the east and west. On the central terrace there were found twenty-two statues, chiefly Dhyanī Buddhas and Bodhisatvas.

The southern group has also an elevated terrace on which some statues were still found. The western side was surrounded by two rows of dwarf temples, and the other sides by three rows of stupas. The question here arises, what can have been the purpose of the square terraces in the centre of the northern and southern group? Were there larger stupas here, and must we suppose that the statues found there originate from the surrounding buildings? Mr. Yzerman thinks that this is not the case, and that there were really terraces of statues there, where the priests met for certain ceremonies.

Can it be that these were the places where, in accordance with the prescriptions of the *Bikshus*, assemblies had to be held twice a month, on the day of full moon and new moon, in order that the statutes of the order might be read in common? We must not forget that the space in both viharas was extremely limited, and that we are here faced with the "sangharama," where a number of priests had their residences. Traces of these are still in existence, because to the west of the entire group, immediately adjoining it, we find a space of about 100 metres and 350 metres length shut off by an enclosing wall, the foundations of which can still be traced. Here, presumably, stood the residences of the great hosts of monks, whilst the high priests alone were elected to reside in the two viharas.

In Gandhara, the residences of the "Sangharamas," with their accessories, are largely erected of stone, but here in Java this appears to have been entirely temporary material, wood and bamboo. It is certain that hitherto not a trace of permanent house groups have been found.

A fuller investigation of Chandi Plaosan will presumably yield extremely interesting results; it is a pity that this group, somewhat detached, has been so devastated. It has been regarded for centuries as an inexhaustible quarry, and for miles around all structural works on the tangled skein of roads have been made of the materials of this religious structure.

Before we take leave of Plaosan, it must be stated that for the foundations and internal filling of the walls, very ample use was made of the sandstone obtained from the plateau of Ratu Bokō. Just now this may appear a fact of slight interest; it is, nevertheless, a matter deserving full attention. We shall have the opportunity later on of pointing out that this fact can be observed in relation to only a few structures in the Prambanan Plain, and that from it some conclusions and comparisons may be drawn with regard to the age of the different buildings.

CHANDI SOJIWAN AND KALONGAN.

About a kilometre to the south-west of the station of Prambanan lie the ruins known under the names of Chandi Sojiwan and Kalongan.

Of the former, practically nothing remains. Mr. Yzerman discovered them, and points to the sad remnants of circular pedestals of the same shape and dimensions as those of Plaosan, lying on a rectangular area of about 50 by 80 metres. Their number, however, cannot be fixed.

To the north of these lay the foundations of two small square temples with entrance facing west. Between the two buildings an Amithaba statue was found.

Still further north lies Chandi Kalongan proper, about which Baker and Mackenzie gave us the first reports. The illustrations in Raffles' work on Java have relation to these. Then, and at the time of Brumund's visit also, the roof had not completely fallen in. Presumably it came down during the great earthquake in 1867.

About 1805, the whole temple chamber, filled with rubbish, was cleared, and in 1902 the basement was disclosed.

The plan is again square, with projection on each face. That on the west side is largest, and also serves as the gateway. The frieze of the basement is adorned with twenty-one panels, of which two on both sides of the gateway are purely decorative. The remaining nineteen exhibit the well-known recumbent spiral motives, in which we find all sorts of things depicted. These are all illustrations of fables, just as we found in the basement of the stair faces of the Mendut temple, taken from the old Indian book of fables which found its way from the East to all parts of the world, and which was translated into Persian, Arabic, Turkish, Greek, &c., and later on into all European languages. Just as at Mendut, these are all simple tableaux, each of which depicts an independent tale, or rather suggests it, as the episode is here produced in its most curtailed form.

It appears that certain fables were repeated as special favourites in this simple sense, because at the very first glance we find again here some stories which are represented at Mendut. Thus we could point to the story of the loquacious tortoise, the race between the garuda and the artful tortoise, the story of the crocodile with the monkey which has forgotten its heart, and that of the Brahman, the crab, the crow, and the snake.

It is quite easy to understand that certain fables were preferred here, as they did not

all lend themselves to reproduction in so abbreviated a form as was here required. It is also deserving of remark that the stories here mentioned occur in the form of djatakas in the Pali text, whilst we look for them in vain among the numberless djatakas of the northern text, depicted in the galleries of the Bōrō-Budur.

The stair faces are still fairly well preserved. The southern represents a beautiful modified tree, and beneath it three pots of jewels or flowers; in the tree, a kinnara couple are seated on lotus cushions. On both sides we see a Brahman, who from his gesticulation is in conversation with a figure having wild demon-like hair, in one hand a short sword and in the other a halberd. Behind is a disciple.

The makaras of the stair ornamentation are faithful, very beautiful repetitions of the type mentioned at Plaosan.

Not much has been left of the temple body proper, but we may still perceive that in the

already encountered the lion in this capacity. At Kalongan, we find them combined into an ornamental panel. In this we see a motive of adornment which plays a great part in the Dravidian architectural style in India. There the elephant and the lion are the customary bearers of columns; later, they also appear in pilaster adornment, and the animals are modified and combined, and accompanied by riders and guides.

The square inner space has unadorned walls; the roof formerly rose in regularly projecting shelves. Against the back wall we find the remains of a simple altar, on which at one time statues stood. The principal statue had already disappeared when Baker and Mackenzie visited the temple. Nevertheless, a small but very beautiful Amithaba statue was found with its lotus cushion and back hewn in one piece. It is noteworthy that this latter, just like the Bodhisatvas at Plaosan, terminated in a pointed flame edge. Further, there



CHANDI KALONGAN: PANEL SUPPORTING PILASTERS, AND MAKARA ORNAMENT AT ENTRANCE.

side walls there were simple square apertures for light. This merits attention, because, leaving aside the insignificant air passages in the walls of Chandi Pawon, we find windows in Java only in the cloister buildings of Sari and Plaosan and not in temples proper; and there is for the present no reason for classing Kalongan among the viharas.

It need scarcely be said that the entrance to the inner chamber was adorned with the kalā-makara ornament. The lower ornamentation alone now exists. Very remarkable is the masterly chiselling of the panel on which the makara rests. We find a squatting elephant, front view, flanked by recumbent lions; on and beneath these animals, whimsical dwarf figures. Elsewhere (Chandi Sari, Plaosan, &c.), we already saw the elephant repeatedly appear as the carrier, and in the principal temple of Chandi Sewu we had

were found on the floor of the chamber two Bodhisatva statues which undoubtedly belonged to the niches of the side walls. These latter statues are seated, like those of Plaosan, in the "lalitasana" posture, and are now in the museum at Djocjakarta.

As at Plaosan, soft sandstone is used extensively, obtained from the plateau of Ratu Bokō, again chiefly for the foundations and inside filling, but here and there an error was committed in using it for the beautiful outside work. Traces of the old stucco coating may still be found everywhere.

Next to the temple we find another very remarkable stone on which the goddess Sri is depicted on a lotus cushion with a flower in her right hand; next her kneel two elephants holding a water jug in their trunks and pouring the water over the goddess. The dimensions and further ornamentation show that this piece formed the

lintel of a temple gate. Elsewhere, similar Sri figures are found on door lintels. Exactly the same figure we find again at the eastern gate of Sanchi, which was already completed in the year 100 B.C., whilst Chandi Kalongan was presumably erected between 900 and 1000 of our era.

In Southern India there is a reproduction of Sri carved in wood in the temple dedicated to the city goddess of Madura.* This dates from about the beginning of the sixteenth century and is evidently of a copy of the Sri here depicted.

Sri, the goddess of beauty, good fortune, and riches was of old the goddess of the people *par excellence*, and she is very much to the fore in Java, too. The favourite position in which she appears is above the entrances to the temples, and numerous are the independent Sri statues of stone or bronze sitting or standing on a lotus. She is always depicted with a lotus in her hand, sometimes with an ear of corn in the other, now and again with many arms. The reproduction nevertheless always typifies "the ideal of the Indian woman" with rich costume, hung with ornaments or adorned with a precious crown. The breasts, always full, are in some statues pierced by a channel, from which it is evident that the statue must formerly have stood near some spring, so that the life-giving fluid flowed out of the breasts. In this connection, it deserves mention that in Java Sri is, in a more limited sense, the protectress of rice culture. Her name has become the holy syllable which is preferably engraved on gold and copper seal and other rings, of which there is an extensive collection in the Batavia Museum.

CHANDI PRAMBANAN.

In the immediate neighbourhood of the station of Prambanan lies the group of temples of that name, known to the Javanese as Chandi "Loro Djongrang." Loro Djongrang is the daughter of the legendary giant prince, Ratu Boko, whose palace they imagine to lie on the mountain plateau near at hand, and this name was given by the Javanese to the Durga statue, which is set up in the principal temple of this group.

Some twenty years ago the group still lay to a great extent buried beneath the soil, and access was obtainable to only a few capellæ of the principal temple. In 1886, the Archaeological Society, which had just been established at Djocjakarta, began to clear the interior rooms of the large temples, which were all full of rubbish from the collapsed roofs. Mr. Yzerman conducted this work, and carried it out on an exemplary and systematic method. The surprising results are set out in his repeatedly cited work on antiquities in the Prambanan Plain.

In 1889 others proceeded to continue the work of bringing the group to light, and then the basements, with their exceedingly beautiful adornment, were laid bare. It is regrettable that this latter work was carried out by unskilled persons. The excavators, in an ecstasy of delight at the ravishing ornamentation brought to light, were attacked by a sort of archaeological vertigo, and hastened to remove the masses of stone fallen near the temples, and pile them up in a great heap. It was forgotten to make systematic plans and records, in which the remarkable stones could be entered; in short, they went to work without any system, and thus this

work, undertaken with the best intentions, caused the loss of information of enormous value. It will probably be impossible ever to make reliable drawings of the original condition of the faces and the roof ornamentation. Presumably this would have been possible if the excavation had taken place according to the rules of the art. This, in particular, applies to the Javanese Hindu monuments, because the architecture of these structures is characterised by an astounding uniformity and symmetry. A small fragment of a cornice is often sufficient to allow of reconstructing the entire cornice, above all, in a group like the present, where one temple clears up what has been lost in the others.

The result of the last-mentioned excavation will be found set out in the richly illustrated and magnificently presented work of Dr. I. Groneman, entitled "Chandi Prambanan op Midden Java."

The temple group is surrounded by two enclosing walls; these have disappeared, but their foundations may be seen everywhere, as likewise those of the gateways, which have also vanished. The outermost wall is not indicated on the plan, but lay in a square of about 400 metres side. This square was not parallel with that of the following wall, which had sides of about 220 metres, with entrances in the middle of the faces. This wall lies, it is true, directed along the compass points, and encloses a site on which the ruins of three rows of small temples rise, totalling 156 in number. It appears that near the four entrances two more temples stood or were to be made, because on the eastern face, northward of the entrance, another structure of this kind was found in the fourth row. The three rows of small temples each time rose to a higher level inwards, and were presumably separated from each other by retaining walls of about 0.9 metre height, though this cannot be stated with certainty.

Of not a single temple has anything more remained than the basement. They all bear signs of having been ravaged by treasure hunters. The interior rooms are 2.30 metres square, and, like all Sivaitic temples in Java, they have square pits in the centre of the interior. These are almost everywhere made with clean, cut stones, and here run through to the bottom of the foundations. In some of them, urns with cremation ashes were found, from which it appears that these structures are really mausolea. Not a single trace of any statues was found, however, yet very probably a large number once stood there. In some, the pedestals were still found.

All the ruins bear traces of having been uncompleted. In many of them, the basements and the stair faces were still unadorned.

Within the string of small temples arises a sustaining wall of substantial design of about 4.5 metres height. The frieze of this wall is divided into panels separated by pilasters; the whole still remains smooth and unadorned, but it is clear that all this was intended to be ornamented. The enormous antefixes which break the cornice have also remained unchiselled, and here, as in Chandi Asu, in the residency of Kedu, one can get a just impression of the method of work of Hindu architects. The part above the cornice at the same time forms a balustrade, which surrounds the site of the larger temples. On the coping of this balustrade, presumably, there once stood pointed ornaments, showing a great resemblance to those of the niche temples in the lowermost gallery wall of Borobudur.

Four stairways lead from the circuit round the retaining wall to the temple level, lying

1.5 metres high, where eight great structures rise. Of the western row, the centre one, the chief temple of the entire group, is dedicated to Siva, the north to Vishnu, and the south to Brahma. The building opposite the Siva temple shows as its principal statue the "Nandi," the animal on which Siva rides. Of the remainder, the character of the dedication is not known with certainty.

We shall confine ourselves to giving a detailed description of the most interesting object of this group alone, the Siva temple.

The plan shows a great deal of agreement with that of Kalasan and Sewu, and again exhibits the square with projections. Just as there, the principal chamber is surrounded by four smaller cellæ, of which the eastern one at the same time serves as an advanced gateway of the central interior. The dimensions here, however, are more grandiose; the proportions of the profiles and the division of the plan approach perfection; the ornamentation is richer than elsewhere, but is nevertheless sustained, and everywhere betrays the hand of the master. The architectural technique shows qualities which we seek in vain elsewhere; in short, the monumental art culminates in this Siva temple. The basement is a jewel of architectural conception, with happily designed, powerful profile, and masterly frieze ornamentation. A system of smooth and wrought pilasters divides the frieze into two different sections. These consist of a niche with lion, flanked by side panels. The lions, of the same type as those of Borobudur, are all standing, and fill the entire niche, which is bordered with makara motives, and a beautiful antefix crown, in which a prayer bell is suspended. The side panels are no less beautiful, and exhibit trees in adapted form, covered by a pajong, and flanked by a female and male kinnara. The modification of these trees is very interesting. They have almost entirely lost the character of a tree, and appear as a bouquet in which the lotus appears in all stages of development; we see it, therefore, as a closed and an opening bud, and finally as a fully matured flower, with hanging seed pod. The trunk is also modified; it looks like a garland of flowers, and thus makes the illusion of a lotus bouquet perfect. The kinnara figures elsewhere give place to stags, hares, peacocks, geese, and other birds.

On the cornice rests the balustrade, which bounds the circuit. The coping is mostly finished, but here and there we still see recesses for round ornaments, and need not doubt that here stood the peculiar ribbed melon-like stones* which are found in large numbers on the temple site, and which, with their top-pieces, remind us of the dagobas. We think immediately of the string of dagobas which, in quite an identical way, formed the crown of the balustrade of the principal temple at Chandi Sewu.

A special Buddhist motive cannot in the nature of things be applied to a purely Sivaitic structure, such as the Chandi Prambanan, but in the coincidence of the two copings in question we think we may find a trace of Buddhist influence on the structural art of the Sivaites. We shall have opportunity later of observing this in other points. It is, indeed, evident that that influence was manifested in this department, in which Buddhism was so predominant, and the Chandi Prambanan may be called almost the only magnificent creation of the Sivaites.

* See Grunwedel: "Buddhistische Kunst in Indien," 2nd edition, p. 41.

*The gates and enclosures of the farms of Javanese nobles in Djocjakarta to-day still have copings, the form of which shows a great resemblance with that of the stones in Chandi Prambanan here referred to.

The external roof ornamentation of the balustrade stamps the architect and the decorative artist of this principal temple as gifted masters. The projecting and receding fields produce a very happy shadow effect. The recesses form niches with a beautiful kalāmakara crown; lotus flowers with seed shoots terminating in bells hanging down out of the upper jaw of the lion's head. The makaras are turned inward, and are flanked by sitting lions. This is a surprising transformation of this favourite motive, as the lions, here produced entirely separate from the makara, are really nothing else than those which usually sit on the tongue in the makara jaws.

The filling of the niches consists of an enormous stone slab chiselled with three figures, closely clasping each other in an exceedingly loving posture. Now it is three women, then again a man between two women. These masterpieces of sculpture undoubtedly represent the "gandharvas" with their loves, the tender "apsarases," the beautiful nymphs of the heaven of Indra, who are not chary of their favours and whose love is the reward of heroes fallen in battle. In the projecting fields of the balustrade, we find dancing and music-playing figures, again reminding us of the like adornment on the balustrade of the principle temple of Chandi Sewu.

This is the place to revert briefly to what was said in dealing with Chandi Asu (Kedu) with regard to architectural technique as we find it applied at Chandi Prambanan. In the basement we see how the architect endeavoured to divide the joints in accordance with the later ornamentation. The lions are entirely complete; for the antefixes and makara pieces of the niche borders, the panels with the tree figures, the smooth and wrought pilasters, separate pieces of stone were used. This same healthy principle is also applied in the other great temples of this group, though not so consistently as in the Siva temple. In other structures in the Prambanan Plain, the old rule, however, has been adhered to of making the joint distribution independent of the ornamentation. This indicates that architectural technique culminates in Chandi Prambanan, and that this city of temples must be reckoned among the youngest creations of the Middle Javanese period. This supposition finds support in other facts of a technical character, but it gains strength above all on study of the ornament. Dr. Brandes has already pointed out that the details of ornamentation of Chandi Prambanan indicate the latter as the point of connection with East Javanese art, which in every respect exhibits a process of building advancing upon Middle Javanese traditions.

The copings of the beautiful corner temples which stand at both sides of the four principal stairways have unfortunately disappeared, as treasure hunters have partly broken down and ravaged these structures in the hope of finding an urn with precious contents within. They produce the impression of votive temples, but the examination made of a still fairly sound specimen showed that there was no urn within. Just as in the apsaras niches of the balustrade, we find here an interesting kalāmakara crown. The makaras are again turned inwards, and the cockatoos, which elsewhere appear in the makara mouth, are here placed next to it as independent figures. The faces of the four stairs are decorated with heavy recalcitrant spiral motives, bolder in composition than are to be found anywhere else. Of the customary adornment, the makaras only have been preserved. These are again masterpieces of sculpture, such as we might anticipate in this structure

of monumental magnificence. The composition reminds us of one of the makaras of Chandi Bubrah already mentioned, but the type of the modified hybrid creature in which the elephant's trunk is lost, is here once more different, and in place of a human figure we find here a recumbent lion on the tongue.

Mounting the eastern staircase, we reach a landing place which must originally have been roofed over. The roof has disappeared both here and on the other three faces, and we can only perceive that from here two doorways gave access to stairs which descended to the circuit proper. We now turn our right hand towards the principal chamber, and carry out the prescribed circuit, beginning in a southerly direction.

Here we find against the inner wall of the balustrade described above, a continuous series of twenty-four speaking reliefs, illustrating a part of the Rama legend, borrowed from the great Indian epic "Ramayana." The last relief to the north of the eastern staircase depicts the bridging over of the straits between the continent and Langka (Ceylon) and the march of the army of monkeys of Rama and Hanuman to the relief of Sita.

The representation of the Rama legend had been found earlier on the balustrades of the Vishnu and Brahma temple, but

ment of heavy profile, the frieze of which is continuously ornamented. On each of the twenty-four fields of the face, we find the seated image of a god, flanked by receding casements, likewise adorned with "speaking" ornaments. We owe to the keen insight of Miss M. Tonnet our knowledge of the fact that there are here depicted the Brahma "lokapalas" or protectors of the world, at the same time rulers of the winds. The types of the godly forms here in question very much remind us of that of the Bodhisattvas; the attributes are placed next the image of the god, and in this way the sculptor has been able to escape the unesthetic representations in which the Hindu gods are depicted with four arms and more. Here, therefore, we see Buddhist influence on the sculptural art of the Sivaites. The images of the gods in question are, almost without exception, masterpieces of sculpture.

The above-described basement is followed by the body of the temple proper. Only the foot and a small part of the rising masonry have remained. The foot is very remarkable. It shows, indeed, a classical succession of profiles, but the bell ogive and the half round are found repeated twice above each other; the uppermost ogive and half round are again adorned. Here we already see that the soberness and simplicity of the old building forms is beginning to disappear, the



SIVA TEMPLE OF CHANDI PRAMBANAN.

1. KALĀ HEAD AS ORNAMENT OF THE CORNICE.

2. KALĀ-MAKARA ORNAMENT OF THE CORNICE.

these are so mutilated that the further thread of the narration could not be followed. Numberless stones of this series, however, are still on the temple site; some of them are set up in the museum of statues at Djocjakarta, and an earnest endeavour to complete this series is still to be made. Here again we may perceive what are the results of unskilled excavation. If the work of excavation had been systematic, the original place of each fallen fragment would have been seen of itself.

The principal body of the temple exhibits an extremely complex sub-structure. The plinth is adorned with casements, all of which display an antique vase, from which in charming undulating lines the panel filling develops.

A comparison should be made between the artistic value of one of these panels and that of the like adornments in other panels in the Prambanan Plain, and it will straightway be felt what a height the ornamental art attained in Chandi Prambanan. Here the mode of expression approaches perfection, just as in a few small panels of Borō-Budur.

The plinth, again, is followed by a base-

old Middle Javanese style is being enriched and having recourse to complicated profiles. Yet Chandi Prambanan remains as classical as everything that preceded it in Central Java, and decadence only begins in East Java.

The adornment of the ogive fields in question consists of the lotus flower-leaf motive; it again proves that Chandi Prambanan is the link connecting the art of Central and Eastern Java, for in the monuments of the last-named region the adorned ogive field is both warp and woof (for instance, at Chandi Tumpang).

Practically nothing has remained of the original ornamentation of the twenty-four face divisions. At one point only the niche, with the border which adorned each section, is still intact.

What was the appearance of the cornice and roof ornamentation will probably remain a mystery, but the fragments of this still remaining indicate that the crown of the Siva temple must have been more monumental than that of any other structure in Java. It seems that the antefix with niche and bust, just as in the Chandi Sewu principal

temple, was here a favourite, too; these lie by the hundred on the temple site. Alongside this motive, however, the *kālā* head and the *kālā-makara* ornament predominate here. In order duly to appreciate the decorative effect of the enormous *kālā* head used in corner of a cornice, it must be borne in mind that it was at about 20 metres height above ground. What a satirical expression the sculptor has succeeded in putting into this grinning head, which looked down from its height on the believer!

We now mount the staircase leading to the principal chamber and first enter the gateway. We are struck immediately by the difference in the decoration of this interior from that of the Buddhist buildings dealt with hitherto. There we find them as perfectly flat walls; the only adornments consisted of a few niches for statues. Here the walls are entirely occupied by rich flat ornamentation. In two of the corners there are free statues; both these represent *Siva* as the sentinel, the same as we encountered on both sides of the entrance to *Chandi Selō Gryō*.

In the principal chamber stands the colossus to which this principal temple is dedicated, *Siva* represented as "*Mahadewa*," the supreme lord. The god is four-armed, and stands on a lotus cushion. A crown with death's head and moon-shaped sickle stand out above the face; the forehead shows the third all-seeing eye. A spectaclled snake throws its coil over the left shoulder, and the limbs are hung about with a tiger skin. The upper arms hold the rosary and the fly fan; the left lower hand holds the lotus bud, the right is advanced and raised towards the breast; the attribute still wanting, the trident, is chiselled against the back-piece.

The statue stands on a simple altar-shaped pedestal, with a pipe for conducting off the sacrificial water. The pipe is borne by a cobra rising up from a bed of undulating lines with lotus flowers. This masterpiece of the sculptor's art shows the magnificently charming naturalistic creations of which the Hindu sculptor was capable whenever he was called upon to depict animals which were indigenous.

Just as in the gateway, here also the walls are entirely adorned with flat ornament. There are two different patterns applied. One consists of disc-shaped floral motives, the other is again a modification of the "*triṇṇala-chakra*" repeatedly referred to. We have already seen both patterns on the outer walls of the principal temple of *Chandi Sewu*. It should be mentioned further that the wall ornamentation still bears traces everywhere of an old stucco layer of a warm ruddy brown colour. This is particularly clear when we enter the interior immediately after a storm; it then looks as though the old colour came out again.

Mr. Yzerman found that the square pit above which the principal statue stands ran down with smoothly worked walls to 13 metres depth, *i.e.*, to the lower site of the foundations. The stone urn which was here encountered, in addition to ash, contained a few gold, silver, and copper plates in lozenge form, the whole surrounded by thin copper sheet with a lozenge pattern; in addition to seven thin gold plates with old Javanese characters, five small figures cut in gold leaf, namely, a snake, a tortoise, a lotus, an ellipse, and an altar pedestal; likewise a number of spherical gold coins and some small stones.

The southern, western, and northern capellæ have smooth walls but adorned cornices, above which the roof rises with

bevelled stones. Here again stand the images of *Siva* as *Guru*, of *Ganesa*, and *Durga* respectively. The last two, above all, are among the most beautiful statues which the *Sivaites* have bequeathed to us. The place of these gods in relation to the cardinal points entirely agrees with that of the outside walls of the above described *Chandi Selō Gryō*.

The roofs of these capellæ were previously in a very ruinous condition, and anything like a severe earthquake threatened them with collapse. In 1902, the Government gave instructions to have them restored, with the result that we may now hope that they will remain intact for many more centuries. We had the privilege of carrying out this work.

To the north lies the *Vishnu* temple, which is a reduced repetition of the principal temple, with this difference, that there is



STATUE OF BRAHMA, CHANDI PRAMBANAN.

here only one interior. The adornment of the basement entirely agrees with that of the *Siva* temple; that of the upper basement, too, exhibits seated gods, flanked by standing women; the former have various attributes. Their identification is still to be carried out. On the inner side of the balustrade we must look for the continuation of the *Rama* legend, depicted in the principal temple, but this balustrade has fallen away in great part. In the inner chamber stands a large *Vishnu* statue, with the customary attributes, on a pedestal of the same form as that of *Siva*, but more simply worked.

During excavation, three smaller *Vishnu* statues were found in this chamber. They are now in the museum at Djocjakarta. The first of these depicts the god standing

with his "*çakti*" or wife, *Lakshmi* or *Sri*, in dwarf form, on his left arm.

The second is *Vishnu* in his fourth manifestation as *Narasingha*, or the man-lion, who rends open the abdomen of *Hiranya Kasipu*, the denier of the gods.

The third is *Vishnu* in his fifth form of incarnation, "*Wamana*." As a dwarf he came to the pious king *Bali*, who by penances subjected earth, heaven, and the lower world to his authority. The dwarf asked for and obtained from him as much land as he could encompass in three steps; he then developed his giant form, and in one step gained the earth, and with the second and third the heaven and the lower world. The latter was conceded again to King *Bali*. The godhead is here represented standing with one foot on the earth and the other turned direct to heaven.

The walls of the *Vishnu* temple are unadorned. In each of the walls, a pair of unornamented stone blocks project, with supports for temple lamps. In the pit, an earthenware urn was found filled with ash, together with a copper leaf, a tortoise, a "*Chakra*," a "*Wajra*," and a few precious stones.

The southern or *Brahma* temple of the western row is entirely identical in point of dimensions and adornment with the temple of *Vishnu*; in the frieze of the basement, however, we continually find gesticulating figures, which, equipped with the trident and the water jug, the rosary and the fan, remind us of manifestations of *Siva* as a teacher or ascetic.

In the inner chamber stands the great *Brahma* statue, four-armed and four-headed, with the habitual attributes. During excavation, there were also found three much mutilated small statues of *Brahma* in other incarnations. In the temple pit, nothing more than a few gold coins was found.

Of the eastern row, the centre one is again the most remarkable and the greatest. In the inner chamber lies the gigantic humped ox, which served as *Siva's* steed, a splendid piece of sculpture in conception and execution, the head being turned towards the place of the master.

Against the black wall stand two smaller images, representations of the Sun God, seated on the car drawn by seven steeds, and the Moon God seated in a car drawn by ten.

The lower basements of the eastern temples exhibit the same adornment as those of the western, *i.e.*, the lion niche flanked by caskets with trees in modified form; this motive, varied each time, is applied to the whole of the six larger structures. All kinds of animals, moreover, appear in the eastern row of temples beneath the trees; their type, almost without exception, is excellent.

We must briefly revert to what was said at the close of the descriptions of *Plaosan* and *Kalongan* with regard to the use of sandstone. At *Chandi Prambanan*, this has been largely used for foundation and inner filling. It has already been pointed out that the stone came from the quarries near the plateau of *Ratu Boko*. It is an excellent material, easily worked, and can even be sawn without difficulty. It is not suited, however, for outside work, as it is too liable to weather, with the consequence that the surface grows soft. When not exposed to the air, it has an enormous power of resisting weather influences. It is a remarkable fact that in all the temples in the *Prambanan Plain* use is made of this excellent material, which is so much easier to work than *trachyte*, only at *Plaosan*, *Kalongan*, and *Chandi Prambanan*.

A further point is that the sandstone was easily obtainable from inexhaustible quarries, whilst the hard stone had to be brought from all quarters in the form of loose field boulders.

We do not hesitate to draw the conclusion, therefore, that during the construction of Kalasan, Sari, Chandi Sewu, and Lumbung, in which not even a trace of sandstone is found, this excellent material was not then known. In other words, the last-named structures are of older date than Plaosan, Kalongan, and Chandi Prambanan.

The developed technique in the treatment of stone, observed in the last-named city of temples, also points in the same direction, and a comparative study of the ornament of the temples in the Prambanan Plain brings us to the same conclusion.

From the foregoing, it may be seen how important purely architectural investigations may be in such a region as the Prambanan Plain, where, apart from one single exception, accurate data with regard to the time of building are entirely wanting. In our view, the technical and architectural examination should indeed be the basis of all further archaeological inquiry.

CONCLUSIONS.

The building technique has already been characterised here and there in the foregoing. We learnt that the buildings were originally completed without ornamentation. That only after this did the decorative artist enrich the whole with chiselled work. Generally, the architect and decorative artist worked fairly independently of each other. The division of masonry joints is quite out of relation with the ornamentation to be applied later. In a few structures alone, presumably of more recent date, can we perceive progress in this respect, and we see that the architect and sculptor worked together from the outset, with the result that the distribution of joints is closely connected with the ornamentation.

Everywhere we encounter simple, but sound, principles of the art of building in stone. The outside work only was erected in carefully hewn stones, with close fitting joints. The inner work consisted merely of rough hewn filling. Only the separate parts of the structures of slight thickness of wall, such as balustrades for instance, were erected entirely with close joints.

The bond between the successive layers is secured by simple recesses of various shapes, all having for their object to prevent horizontal displacements. The bond between the stones of the same horizontal layer is effected by connections consisting of rectangular or double swallow-tail stones, which latter indicate the survival of wood constructive principles in stone building. Metal bindings are looked for in vain. The Hindu architect, however, did not restrict himself to these forms of bond only. In order to obtain greater solidity, a binding was everywhere used consisting of trass mortar, composed of trass, lime, and sand; the former material, a weathered product of volcanic origin, is found practically everywhere in Java in excellent quality,* and limestone hills supply the second material in no less excellent qualities.

* During the restoration of the Borô-Budur temple, we lighted on the trass quarries, which were presumably worked by the original builders.

The use of mortar, however, is restricted everywhere to the outside wall, *i.e.*, about 50 to 70 centimetres behind the face. In the rough interior filling it was not used.

If we wish to characterise quite briefly the architectural order of the Middle Javanese monuments, we should first of all have to point out the absence of independent pillars and columns.

This characteristic, of course, is closely connected with the building material available. The hard stone, a species of andesite lava, had to be got from the boulders in the river beds, and the stones scattered everywhere by volcanic action. Large sizes suitable for columns were scarce, and these large pieces had to be used in the first place for the making of statues.

A second chief characteristic is the typical arch construction. A short digression was made on this in describing Chandi Sari, and it was pointed out that the pile arch, with horizontal joints, was the most adapted structure in this most volcanic of countries.

The absence of pillars and the application of these arches together have had the result that large and bold arch constructions became impossible. We saw, indeed, that in the larger monuments there is a tendency to the creation of extensive groups of independent structures. Where the principal temple itself had to assume a monumental appearance, the plan is divided into a principal chamber, surrounded by small capellæ, which could each be separately roofed.

The connecting of the Middle Javanese architectural style with the orders in the country of origin, which are classified by Fergusson with so much ingenuity in his "History of Indian and Eastern Architecture," is an extremely difficult task, difficult above all to those residing far from the illuminating sources of rich libraries.

We shall not venture on this; it will require a study in itself. We wish nevertheless to point out a few principal points of agreement and difference. It was observed, when describing the structures on the Dieng Plateau, that the question of the origin of Middle Javanese art is very complicated. Philologists, on the strength of the "Wenggi" inscriptions found on the Dieng Plateau and in West Java, point to influences from Southern India, the country where the Dravidian style flourished.* The prevailing "Kawi" writing clearly indicates influences from the neighbourhood of Gîrnar and Bombay, the border country between the Chalukyan and Indo-Aryan architectural styles, but also to Further India.

The Mahayanistic Buddhism standing out so sharply in Middle Java suggests an origin from Northern India.

What of the architectural style itself? In our opinion it is in very many respects a style standing by itself, led through its own individual paths by the elimination of pillars and by the peculiar arch structure, a style which, building upon ancient traditions, created new forms, and furnished many glad surprises in the sphere of ornamentation above all.

The stupa construction in Borô-Budur is not only unique in Java, but is at the same

time unrivalled in old India. The topes in Gandhara, Nepal, and elsewhere, indeed, supply the prototype, but nowhere do we find a stupa with so detailed a substructure; nowhere is the quintessence of that religious structure, the dagoba, so overshadowed by terrace buildings.

The Mangalatscheti temple at Pagan, in Burma, shows the nearest relationship, but it only rose in 1274, when presumably four centuries had already passed since Borô-Budur was built.

The dagoba, the custom-hallowed Buddhistic form of building, plays in Central Java a predominating part as an ornamental motive in the roofs of temples and cloisters. The banaspati or kalâ head, and with it chiefly the kala-makara ornament, appear in new unknown forms with such freshness and frequency that they dominate the entire ornamental art.

The recalcitrant spiral motive, climbing and horizontal, is also typical of the art of Central Java. On the other hand, we are each time struck by the coincidence of style and ornamentation with those of the land of their birth. Remarkable is the fact that in the Buddhistic monuments, in spite of the kinship of the faith with that of North and North-West India, the Dravidian style of the south speaks most strongly.

The square plan, the perfectly symmetrical style, and above all the pyramidal roof rising in storeys, indicate Dravidian influence, just as does the projecting outer gateway the "Mantapam."

The cornice with ogive is also a characteristic; but of more decisive importance than anything else, we think, is the horizontal and vertical division of the plan.

The characteristic of the Dravidian style manifests itself, indeed, in predominating horizontal profiles, whilst in the contemporary northern styles, vertical lines are in the foreground.

In the foregoing descriptions, we have had more than one opportunity of pointing to the predominance of horizontal lines and the resulting shade effect, and it is clear that in this respect likewise Middle Java approaches the Dravidian. In ornamentation, too, there is much that suggests this. We may mention the favourite ornament in which slender pilaster motives are applied for adorning the outer walls, and the part played by elephants and lions as carriers. This latter has already been briefly elucidated in describing Chandi Kalongan.

The difference between the Dravidian style and those of Central Java are for the rest so great that a classification on the lines of those of the Indian styles would, in our opinion, have no basis.

It is remarkable that the gateways, which in the Dravidian monuments gave access into the spaces and courtyards around the so-called "gopurams," are wanting in Middle Java. Presumably they were in existence here and there, but most certainly they had not the same monumental aspect as in Southern India.

Fergusson thought he had found the Indian style again in Chandi Bimô on the Dieng Plateau; we are convinced, however, that he would have judged otherwise if he had been able to get a good view of this temple. The prevailing horizontal lines of the storeys of the roof, to our thinking, suggest the Dravidian order.

* The Dravidian style flourished throughout the whole of Southern India from the Krishna River; the oldest monuments date from the sixth or seventh century.



MUSEUM OF THE BATAVIAN SOCIETY OF ARTS AND SCIENCES.

1. PART OF THE GOLD AND SILVER COLLECTION.
2. THE HALL.

3. OLD BRASS COLLECTIONS.
4. PART OF THE ARCHEOLOGICAL COLLECTION.

MUSEUM OF THE BATAVIAN SOCIETY OF ARTS AND SCIENCES.

BY DR. PH. S. VAN RONKEL, Librarian.

THE Batavia Museum of Arts and Sciences, the first of the kind started by a European nation in their overseas possessions, was established in 1778. The building of the Society is situated on the west side of Koningplein, but the accommodation available for the proper display of the various collections, partly belonging to the Society, partly entrusted to its keeping by the Netherlands Indian Government, is far from adequate. The work of enlargement, however, it is satisfactory to note, has already commenced. The so-called "rotonde," which formerly contained most of the images but which will shortly be occupied with the principal archaeological objects, is now being lengthened, and in a few years a regular rectangle will have grown out of the structure, which now consists of a front gallery and two wings of an unequal length.

Passing through the museum, one's attention is first attracted by the ethnographical collection. This consists of articles of dress, ornaments, furniture, models of dwelling houses, agricultural implements, fishing requisites, and objects of art and industry obtained from all parts of the extensive Malay Archipelago, ethnologically so different in the distinct stages of civilisation which each race has reached. Especially of late years, owing to the extension of Dutch supremacy over uncivilised regions and the consolidation of Dutch authority among subjugated but more or less turbulent tribes, the ethnographical collection has been considerably increased by the great number of objects deposited in the museum by the Government. North Sumatra, as well as New Guinea, Celebes, as well as Bali, are now well represented, and a more systematic arrangement of the articles prevails.

The archaeological collection is less comprehensive, but certainly not less important. It includes antiquarian objects, chiefly of bronze, some dating as far back as the early ages of Hindu culture formerly prevalent in Java; piles of very ancient bronze dishes, for the greater part engraved with various designs, highly interesting from an art-history point of view; a whole series of implements of Hindu worship, ornamented with fine engravings; a few of those famous mysterious kettledrums on which more than one German monograph has been published; a large number of small images, pre-historic weapons, all exceeding in number anything of the kind met with in European museums. A part of this collection is now being removed to the front portion of the building, with an idea of keeping the articles of general interest apart from those which ordinarily appeal only to the student.

Adjoining the archaeological room is the so-called "gold room" encased in iron, where the public may inspect the valuables derived from subjugated countries and dynasties, which have been received by the Society in trust for the Netherlands India Government. Prominent among these are the precious stones and ornamental gold weapons from Lombok and South Celebes. They, however, form after all but a small part of the collection, which includes gold articles of state, gold and jewelled weapons, gold shields, gold and silver state ornaments, gold umbrellas, gold table services, &c., worth many thousands of pounds.

In the front part of the building are many

images of the Hindu pantheon, chiefly from Central Java. The five idols placed in the front gallery are seldom found complete, and from an archaeological and iconographical point of view, this group is a curiosity of the highest interest. The large collection of engraved stones, including some covered with writing of all periods of Javanese history, now crowded through temporary want of space, are of less importance to the uninitiated, but are full of interest to the scholar.

The so-called "Company's room" is a true copy of a room in an aristocratic dwelling in the days of the East Indian Company, and is well worth seeing. All the furniture, doors, windows, blinds, skylights, and lamps are genuine and old, the whole being arranged in the style of an ancient house on Kali-Besar, at Batavia. The collection of coins and valuable papers, although less rich than the famous European collections, is nevertheless of con-

Javanese works are many hundreds of ancient writings on palm leaves, being for the most part old Javanese and Balinese renderings of the Mahabharata and Ramajana and other literary productions belonging to that cycle. There are also a number of important writings in modern Javanese, so that the whole Javanese literature, especially romance and history, is well represented. The Malay section contains more than nine hundred documents written in pure or locally degenerated Malay. Romance, religion, and poetry form the three chief divisions; Malay poetry is, however, of little value, and is partly a poor imitation of more ancient Javanese models. A great many of these manuscripts belong to the Government. The Arabic volumes are few but notable, in so far that they principally contain writings on the Mahomedan religion, which have been gathered from almost inaccessible parts of



MUSEUM OF THE BATAVIAN SOCIETY OF ARTS AND SCIENCES.

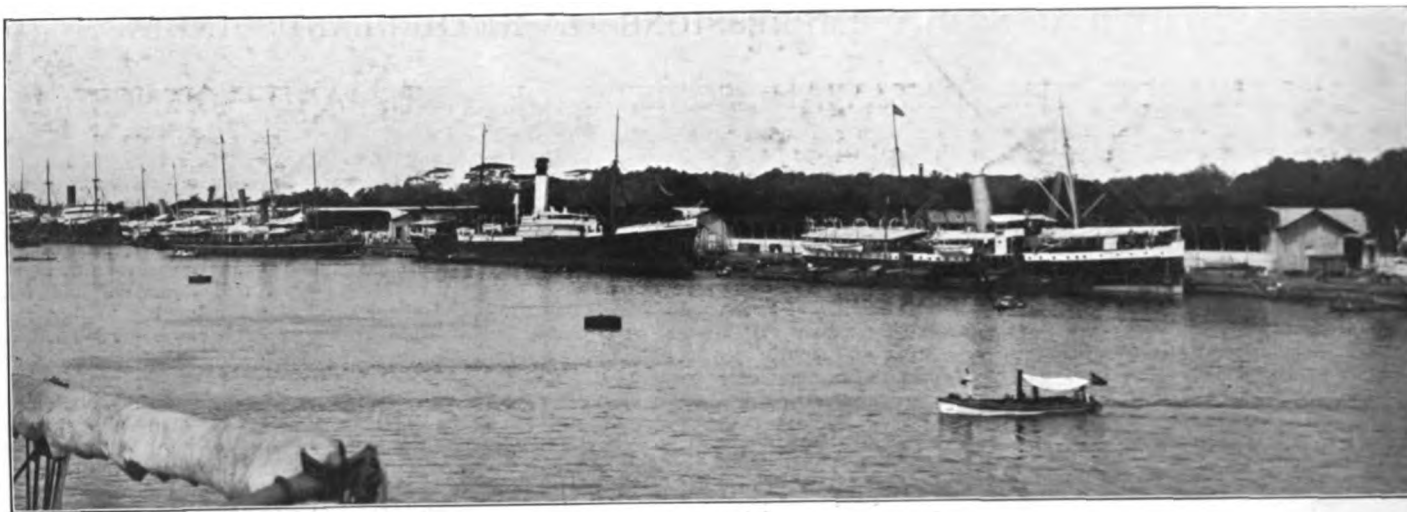
siderable value to Indian numismatists, as it includes a great number of coins of divers coinage, besides many bars and massive lumps of metal from Japan and East Asia.

Finally, there is a library containing both printed volumes and manuscripts. The printed volumes are chiefly works on philology, religion, law, ethnography, geography, and history of Netherlands India and the adjacent countries. Of late years many volumes on Japan, China, and Indo-China have been added, together with a number of books on British India. No alphabetical catalogue has been arranged for public use at present, but the Leyden system, which is in vogue in some continental countries, is now being introduced.

All the languages of the archipelago are represented in the collection of manuscripts, but the more noteworthy works are those in Javanese, Malay, and Arabic. Among the

Achin, subjugated after long wars. From the marginal notes, often hastily broken off in the manuscripts—nearly all treating of the sacred Mahomedan law—it may be judged with what zeal the irreconcilables, hunted from shelter to shelter, have studied the sacred books of their religion in the wild and lonely mountains. There are no old copies of the Koran, probably because none could survive for long the damp climate. The oldest writings date from the seventeenth century.

It is most unfortunate that the museum, considering its many interesting features, should not be a State institution, with a staff of officials appointed by the Government. If such were the case, so much more might be accomplished in the direction of completing and improving the collections than is possible with the limited means at the disposal of a private society.



TANDJONG PRIOK HARBOUR.

IMPORTS, EXPORTS, AND SHIPPING.

IMPORT and export duties in Netherlands India are raised in accordance with the law of November 17, 1872, which, although it has been revised on several occasions, is still in force in the Customs sphere. The term "Customs sphere" applies to those parts of Netherlands India where the Government levies import and export duties, and includes the islands of Java and Madura, the governate of Sumatra West Coast, the residencies of Tapanoeeli, Bencoolen and Sampong, and the districts of Palembang and Djambi; also the division of Indragiri and the district of Kateman, together with Danel, which now forms part of the division of Karimoen in the residency of Riouw and dependencies; also the residency of Sumatra East Coast, excepting the coast of Siak, but including the Siak River and the dependencies of Banca and Koeboe, together with the islands belonging to those dependencies; the division of Great Atjeh (excluding Pulo Way) and the sub-divisions of Singkel and Tamiang, of the governate of Atjeh and dependencies; the residency of Banca and its dependencies; the assistant residency of Billiton; the residencies of the Western and the Southern and Eastern divisions of Borneo; the governate of the Celebes with its dependencies; and finally, the residencies of Menado, Ternate, with dependencies, Amboina, Timor and dependencies, and Bali and Lombok.

IMPORT DUTIES.

According to the existing tariffs, an import duty of 6 per cent. of the value is levied on earthenware and porcelain, gunpowder, yarn, woodwork, haberdashery, manufactures, piece-goods of cotton and half-wool, manufactured silk, silk ribbon, tape, furniture, and horses.

An import duty of 10 per cent. is levied on several things, including the following:—Vinegar, manufactured goods not separately specified (made of cotton, wool, or fibre),

flour, musical instruments, paper of all kinds, carriages, and steel-ware.

Twelve per cent. is the duty levied on gold and silver (leaf), garments either ready-made, woven or knit, perfumery, and eatables of all kinds.

On beer in barrels and beer in bottles, the duty is Fl. 5.25 and Fl. 6 per hectolitre respectively.

An import duty of Fl. 50 is due on every hectolitre of spirit containing 50 litres of alcohol at a temperature of 15 degrees Centigrade.

On candles, the duty is Fl. 12 per hundred kilogrammes; on opium, Fl. 450 per hundred kilogrammes; and on petroleum, Fl. 2.50 per hectolitre.

The import duty on table salt amounts to Fl. 12 per hundred kilogrammes.

The following are imported free of duty:—Arrackleaguers, animal charcoal, books, cement, donkeys and mules, factory engines and steam engines, machinery, mathematical, physical, surgical and optical instruments, tools and implements used in agricultural, manufacturing, engineering and mining operations, sawn and unsawn wood, iron in bars, pieces, rails, nails, iron wire, ships' anchors and chains, telegraph and telephone wire, lime, charcoal, coke, lead, manure, pitch, rice, pictures, steel bars and plates, ropes, cables, rigging, and all other rope for the equipment of ships or for fishing purposes.

In addition to the above, the following are all admitted free of duty:—

1. All goods arriving for or on account of the Government.

2. (a) All produce of the Netherlands Indian possessions where duties are levied by the Government, with the exception of salt not coming from Government stores; such only so far as regards cotton goods, tobacco, and cigars accompanied by a certificate of export from those possessions.

(b) All produce from other Netherlands Indian possessions and from the native states of the Eastern Archipelago on intimate foot-

ing with the Netherlands Government; with the exception of gambier, woven cotton goods, tobacco, cigars, and salt.

3. Personal requisites, such as travellers' luggage and small parcels carried by travellers.

4. Household goods belonging to the consuls of foreign states, and flags, escutcheons, and office requisites belonging to consulates in Netherlands India.

EXPORT DUTIES.

Export duty is charged on all goods mentioned in the table on page 176, although there are one or two exceptions which are dealt with later on in this article.

The export duty is not only levied on goods for countries outside Netherlands India, but also on goods going to some other port in Netherlands India, if—

(a) At the port of destination no export duty is levied by the Government;

(b) At the port of destination a lower rate of export duty is charged, provided, however, that in the latter case only the difference of export duty shall be paid.

Freedom of duty is allowed on gutta-percha obtained by manufacture from the leaves of gutta-percha trees, and also on gutta-percha and caoutchouc produced from cultivated plantations; in these instances, however, exemption is only granted to the holders of exemption certificates granted by a Dutch official.

The duty on exported Billiton tin ore amounts to Fl. 2.35 per hundred kilogrammes.

Exemption from export duty is also granted to—

(a) Goods exported for or on account of the Government;

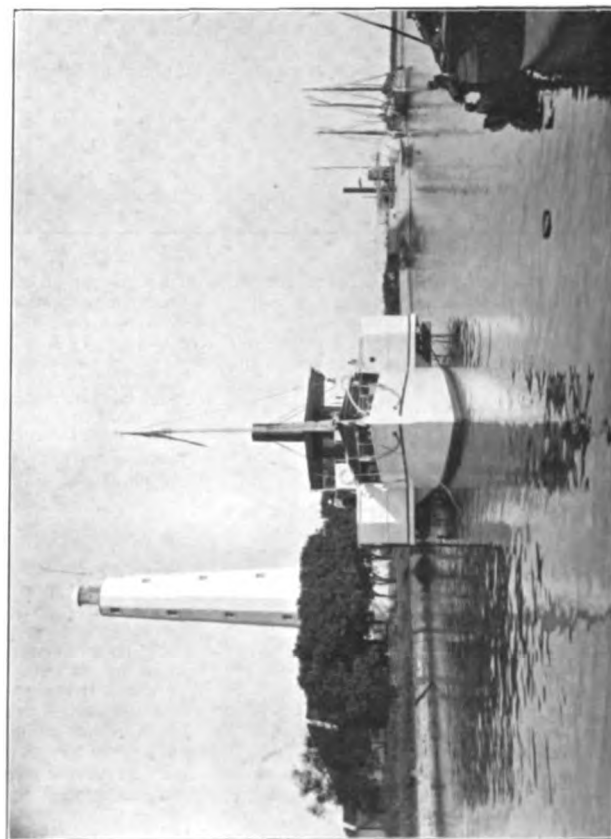
(b) Goods for which export duty has already been levied at some Netherlands Indian customs house, save when at such second port of export a higher duty is chargeable. In this instance, the goods are not allowed to pass before the difference in the rate of duty has been paid.



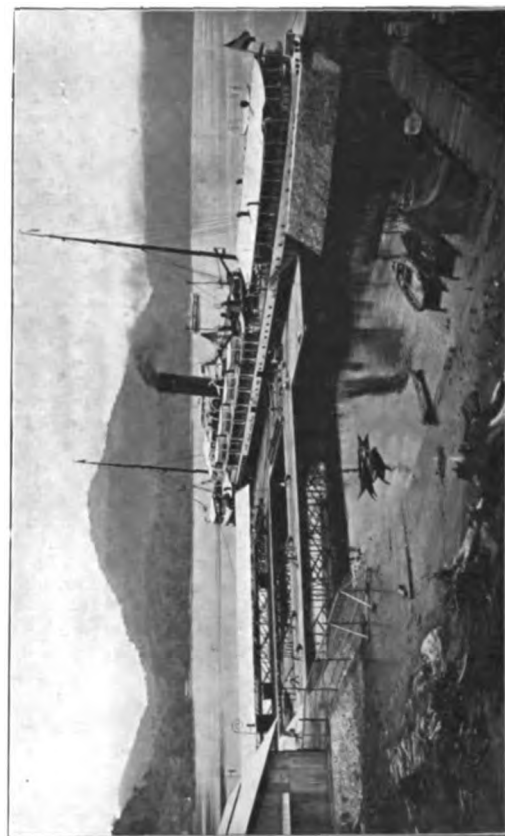
WHARF AT TANDJONG PRIOK, JAVA.



PORT OF BANDJERMASIN, BORNEO.



HARBOUR AND LIGHTHOUSE, SEMARANG, JAVA.



SABANG HARBOUR, NORTH SUMATRA.

EXCISE DUTY.

(a) Excise on distilled beverages.

This duty is levied only, in Java and Madura, and amounts to Fl. 50 per hectolitre on beverages containing 50 per cent.

a box contain more than seventy-nine matches, the amount chargeable is Fl. 0.05 extra per gross boxes on every five matches or less.

If the matches are provided with two heads, the excise amounts to Fl. 1.40 per

Goods.	Scale.	Export Duty payable as per Tariff.				
		I.	II.	III.	IV.	V.
Balam- and Soentei fruits ...	koijang of 40 piculs.	—	—	—	f10.0	—
Benzoin, caoutchouc, damar, gutta-percha, camphor, and other kinds of gum and resin ...	value.	—	5 %	8 %	—	—
Benzoin, damar and other kinds of gum and resin, not specially mentioned ...	"	—	—	—	5 %	10 %
Birds' skins ...	"	—	10 %	10 %	—	—
Birds' nests ...	"	6 %	6 %	6 %	6 %	—
Caoutchouc, gutta-percha, and other products known under the name of "getah" ...	kilogramme.	—	—	—	—	f2.25
Cocoanuts ...	value.	—	—	—	8 %	10 %
Gahroe- and other odoriferous wood...	1,000 piculs.	—	—	—	—	f3.0
Grease of Balam- and Soentei fruits ...	value.	—	5 %	8 %	—	—
Hartshorn ...	"	—	—	—	5 %	—
Hides ...	"	—	5 %	8 %	—	—
Ivory and rhinoceros' horn ...	"	2 %	2 %	2 %	2 %	5 %
Koelit bakau and koelit tengar ...	value.	—	8 %	8 %	—	10 %
Pepper, white ...	koijang of 40 piculs.	—	5 %	8 %	—	—
do. black ...	value.	—	—	—	f2.50	—
Pinang, tjang ...	value.	—	—	—	—	4 %
do. boelat ...	100 kilogrammes.	—	—	—	—	4 %
Rattans of all kinds ...	"	—	—	—	—	f0.38
Sago and sago flour ...	value.	—	—	—	—	0.19
do. purified ...	"	—	5 %	8 %	5 %	—
do. rough ...	100 kilogrammes.	—	—	—	f0.60	—
Tengkawang stones ...	value.	—	—	—	0.40	—
Tengkawang- or Soentei grease ...	"	—	5 %	8 %	—	—
Tin ...	100 kilogrammes.	f3.50	f3.50	f3.50	f3.50	f3.50
Tobacco, not prepared for the native market ...	"	1.0	1.0	1.0	1.0	1.0
Tobacco, prepared for the native market ...	"	—	—	—	—	4.0
Wax ...	value.	—	5 %	8 %	—	—
	100 kilogrammes.	—	—	—	f8.0	f8.0

of alcohol. This ratio is maintained for all other beverages, according to the proportion of alcohol.

(b) Excise is levied on petroleum, together with benzene and gasoline, throughout the whole of the Customs sphere, and amounts to Fl. 2.50 per hectolitre. It is due—

(1) On petroleum imported from beyond the Customs sphere, by the act of importation or that of storing up in entrepot ;

(2) On petroleum acquired within the Customs sphere, by the act of acquisition as a produce, fit for consumption.

(c) Excise on matches is levied in the whole of the Customs sphere and is due—

(1) On matches imported from beyond the Customs sphere, by importation for consumption ;

(2) On all matches manufactured within the Customs sphere, as soon as they are made.

The duty on matches of the sort now in use, packed in boxes in the usual way, and with a single head, amounts to Fl. 0.70 per gross boxes, provided that each box contains no more than seventy-nine matches. Should

gross boxes containing not more than seventy-nine matches, and Fl. 0.10 extra per gross boxes on every additional five matches or portion of five contained in each box.

CHIEF IMPORTS AND EXPORTS.

The tables on the opposite page give the principal imports into, and exports from, Java (including Madura) for the years 1905-8.

SHIPPING.

The ports of Netherlands India open for general trade are accessible to the ships of all flags with whom the Netherlands holds friendly relations, provided the general and local regulations are observed. In other ports, only native vessels and those qualified for coasting are admitted.

The so-called native ports are accessible for all ships without distinction. These are ports which are the harbours of native princes and peoples whose territories do not come under the direct rule of the Netherlands Indian Government, whether the Government levies import and export duties in those ports or not.

COASTING.—The rights of coastal navigation are granted only to Dutch vessels, vessels navigating within the Netherlands East Indian possessions solely, and native vessels, which are considered equivalent to the last named. These regulations do not apply to coasting between the native ports, nor do they apply to the following harbours :—Macassar, Amboina, Banda, Ternate and Kajeli,* Menado and Kema, Riouw, Pontianak and Sambas, Sohadana and the harbours of Bali and Lombok.

Vessels not entitled to coasting are granted the following exemptions, however :—

(1) Goods, loaded in one of the harbours mentioned above, may be unloaded wherever these vessels may be admitted lawfully ;

(2) Goods loaded in a harbour of Netherlands India which does not belong to the category mentioned above may be unloaded only in one of those harbours, except when they come under the general prohibitory laws concerning the import and export of different articles.

The harbours open to general trade in the Customs sphere—the territory where the Government of Netherlands India levies import and export duties—are divided into—

(1) Harbours open for general export and import ;

(2) Harbours open for limited import and export.

In harbours of the latter category, goods loaded outward from Netherlands India and which are subject to import duty (packing not included) may not be unloaded except from native vessels belonging to the Indian Archipelago.

In all harbours open to general trade, commercial goods loaded outward from Netherlands India may not be unshipped from other than native vessels belonging to the area of the Indian Archipelago ; and, similarly, commercial goods destined to be despatched direct from Netherlands India may not be loaded in any other vessels than these native vessels.

In places where no Customs office is situated, goods subject to duty may not be unloaded from vessels in which they have been brought unless the obligations with regard to the import duties have been fulfilled in a place where there is an office.

The inloading of goods for transportation over sea in places where the formalities for inloading cannot be fulfilled, is only permitted on condition that the vessel with which the transport is undertaken, forthwith carries out the necessary obligations at the nearest port where those formalities can be fulfilled, as if the ship were loaded in that port.

HARBOUR MONEY AND ANCHORAGE.—This tax is levied on all ships and vessels arriving in all harbours and roadsteads of Netherlands India where Customs duties are levied. It is due immediately the vessel arrives, with the proviso, however, that it cannot be demanded again during the ensuing six months, even if the vessel anchors in one or more of those harbours or roadsteads.

The duty amounts to Fl. 0.16 per cubic metre.

On page 179 is given a summary of the shipping entering the port of Batavia and harbour of Tandjong Priok throughout the past four years, that is to say, from 1905 to 1908 :—

*Kajeli, as well as Saparoea, meanwhile has been declared closed to general trade, in connection with the introduction of Customs, e.g., in the residency of Amboina. The same exception is made in regard to the harbours in Bali, Temockoe, Sangsit, and Loloam.

IMPORTS.

Articles.	1905.	1906.	1907.	1908.
	Value.	Value.	Value.	Value.
Cotton goods—				
Unbleached—				
Netherlands ...	245,008	302,424	208,261	327,275
United Kingdom ...	235,022	287,460	193,180	227,306
Other countries ...	3,628	5,917	4,390	3,061
Bleached—				
Netherlands ...	714,654	794,340	850,032	995,807
United Kingdom ...	473,124	551,865	487,614	566,251
Other countries ...	18,968	26,579	39,194	46,256
Printed and coloured—				
Netherlands ...	352,425	304,743	389,314	540,746
United Kingdom ...	664,019	530,957	642,930	712,522
Italy ...	81,347	100,871	102,144	120,413
Other countries ...	38,966	42,068	67,604	91,540
Woollen goods—				
Netherlands ...	39,870	40,485	56,105	64,233
United Kingdom ...	11,523	15,214	14,957	14,337
Germany ...	9,915	11,924	15,503	10,609
Other countries ...	12,626	15,039	12,083	11,372
Yarns—				
Netherlands ...	25,627	32,356	23,854	27,597
United Kingdom ...	36,517	40,209	35,867	50,993
Via Singapore ...	41,049	42,789	37,654	68,811
Other countries ...	67,726	46,396	48,151	18,412
Gunny bags—				
Via Singapore ...	98,550	138,540	136,331	148,551
Other countries ...	50,235	57,773	81,621	98,511
Haberdashery and mercery ...	175,177	200,220	261,175	222,934
Provisions ...	307,001	345,958	383,311	522,236
Copper sheathing and plates ...	25,771	22,273	22,050	20,050
Earthenware ...	132,582	180,461	179,546	166,052
Iron and steel ...	98,656	144,608	145,954	200,974
Iron work ...	115,153	131,920	156,885	154,055
Soap—				
Netherlands ...	18,667	25,312	21,176	20,675
United Kingdom ...	4,725	5,680	5,607	8,174
Other countries ...	6,874	9,439	6,671	6,255
Manures—				
Netherlands ...	153,904	160,033	167,611	293,046
United Kingdom ...	200,921	223,027	229,504	142,800
Australia ...	10,668	12,558	6,230	3,083
Other countries ...	36,034	19,372	19,774	20,910
Sundries ...	2,626,151	2,724,661	3,090,596	3,240,916

EXPORTS

Articles.	1905.	1906.	1907.	1908.
Arrack... .. Gallons ...	423,468	273,602	132,884	917,956
Coca Bales ...	1,372	2,491	4,848	9,319
Coffee (private) Tons ...	23,439	21,402	14,615	16,802
" (Government) " ...	1,089	4,337	4,301	1,024
Cocoa Lbs. ...	2,607,872	3,660,144	3,417,544	5,370,504
Copra Tons ...	95,173	45,406	68,000	94,976
Cinchona bark (private) Lbs. ...	16,346,172	13,532,066	17,859,468	16,085,698
" (Government) " ...	1,288,307	1,308,174	1,065,445	1,130,501
Gum damar Cwts. ...	34,562	35,508	42,420	45,799
Gutta-percha Lbs. ...	7,344	108,500	57,120	—
Hides Pieces ...	535,544	676,126	663,215	707,745
Indigo Lbs. ...	480,434	373,073	347,108	227,986
India-rubber " ...	119,434	114,784	84,502	—
Kapok Bales ...	56,377	47,678	92,874	100,852
Mace Lbs. ...	205,904	133,144	163,200	136,952
Nutmegs " ...	379,032	276,216	320,960	430,304
Pepper Tons ...	5,860	5,878	3,714	9,700
Rattans " ...	1,204	2,132	1,490	613
Rice " ...	30,063	44,200	50,600	21,800
Sugar " ...	604,791	786,723	1,058,668	1,105,095
Sulphate of quinine Ozs. ...	748,800	702,400	738,400	710,000
Tobacco Lbs. ...	54,028,856	97,408,640	34,711,552	112,294,520
" (scrubs) " ...	11,214,152	16,562,806	20,901,568	15,932,944
Tea " ...	25,795,973	27,517,615	29,286,402	36,579,536
Tin (private) Tons ...	2,237	1,035	2,432	2,170
" (Government) " ...	9,344	9,807	10,945	11,750
Tapioca " ...	21,172	10,118	45,862	68,500
Timber and sleepers Cub. mts ...	32,833	30,454	34,228	24,873

The following table shows the number of vessels calling at the port of Macassar during the two years 1907 and 1908:—

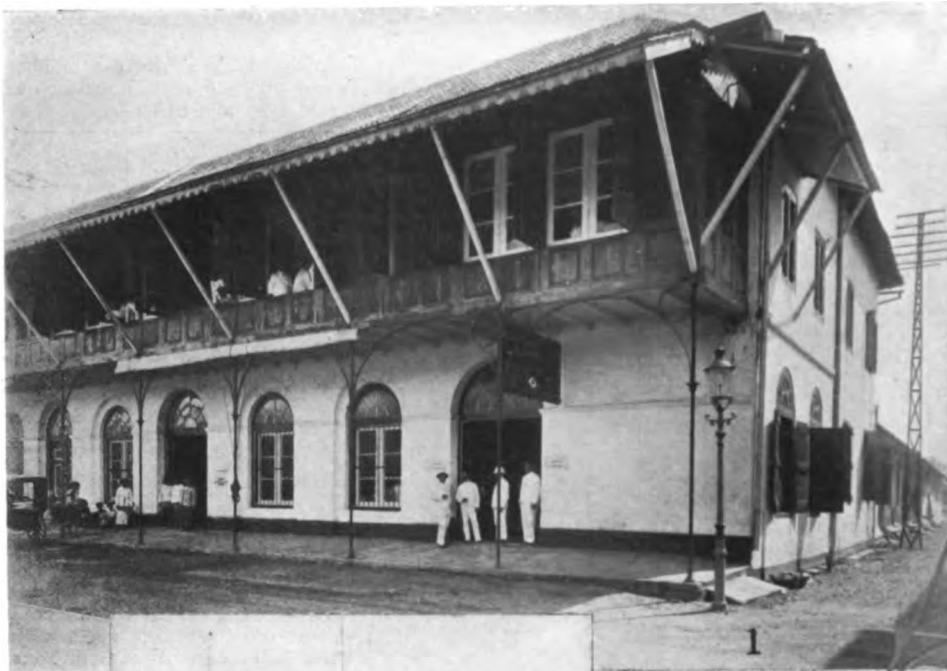
Nationality.	1907.		1908.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
Dutch ...	215	323,337	273	484,877
British ...	54	53,216	63	76,080
German ...	67	113,706	69	114,285
Norwegian ...	3	1,949	1	457
Swedish ...	—	—	2	4,413
Total ...	339	492,208	408	581,021

S.N.C. "NEDERLAND."

THE Steam Navigation Company "Nederland," better known as the "Nederland" Line, which, in conjunction with the "Rotterdam Lloyd," now maintains a regular weekly mail service between Holland and her East Indian possessions, was established in June, 1870. Previously, several combinations of shipowners had endeavoured to establish more or less regular services between Europe and Netherlands India, but results had been far from successful. The cargo and passenger traffic were by no means sufficient to cover the very heavy expenses for coal, and as a consequence sailing ships equipped with steam power that could be utilised during periods of calm were the best means of conveyance provided. No big subsidies were forthcoming in Holland, such as were granted by the British and French Governments to private companies carrying the mails. In the year that the Suez Canal was opened, however, a public meeting was called in Amsterdam to discuss the establishment of a national mail service to Batavia, via Port Said and the Red Sea. The meeting was largely attended. The subject aroused a good deal of enthusiasm, and within two days a committee was elected to consider fully all details. The members of the committee included G. J. Roelen, of Messrs. de Vries & Co., shipowners; J. G. Bunge, of Bunge & Co., shipowners and Eastern traders; and J. Boissevain, of Boissevain & Co., shipowners, Eastern traders, and insurance agents.

It was soon decided that a regular steamship line should be formed, and in February, 1870, a provisional contract was made with the Government whereby the carriage of all Government produce was secured for the new enterprise. Such a contract was of the greatest importance, for, at that time, the Government practically controlled the coffee and sugar trade of Java, the bulk of the produce being grown and sold on their account. The following month the Company was floated with a capital of G. 3,000,000 (£ 250,000), and the first steamers were ordered from Messrs. John Elder & Co., of Glasgow. On May 17, 1871, *Willem III.* started on her maiden voyage, crowds of people witnessing her departure from Den Helder. At the outset, however, the Company experienced serious misfortune. Two days later, the news reached Holland that *Willem III.* was on fire and beached off Portsmouth. Another of the Company's ships came to grief on a rock in the Red Sea, and it was not until after 1874 that the regular sailings so much desired by the members of the royal family, who, throughout, had taken the greatest interest in the undertaking, could be guaranteed. Originally, the Company's ports of call in Europe were Southampton and Naples. The

M



1. BATAVIA OFFICES.

2. HEAD OFFICES, AMSTERDAM.

3. BOOKING OFFICE, SLUISEREG, WELFVREDEEN.

DE SCHEEPSAGENTUUR.

PORT OF BATAVIA.

Nationality.	1905.		1906.		1907.		1908.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
Dutch	905	955,875	953	2,952,301	958	3,358,074	1,033	3,794,912
British	211	1,090,167	177	1,215,503	172	1,012,390	220	1,363,254
German	80	562,833	67	543,912	57	437,505	62	470,072
French	29	103,780	25	80,785	26	84,100	32	135,150
Norwegian	15	42,530	20	67,086	6	22,181	10	44,237
Danish	2	6,130	—	—	0	41,011	2	17,268
Belgian	—	—	—	—	1	8,215	—	—
Japanese	—	—	—	—	1	5,662	1	6,652
Chinese	3	424	2	344	2	240	2	265
Austro-Hungarian	2	13,813	—	—	—	—	1	9,007
Italian	4	17,101	3	12,483	—	—	—	—
American	—	—	1	8,261	—	—	—	—
Swedish	1	3,441	1	2,798	—	—	1	6,000
Russian	—	—	—	—	—	—	2	12,600
Total	1,252	2,805,094	1,249	4,884,373	1,229	4,060,354	1,306	5,850,460

PORT OF SOURABAYA.

Nationality.	1905.		1906.		1907.		1908.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
Dutch	526	682,856	537	750,778	556	796,428	584	917,797
British	345	634,824	307	575,198	271	594,035	364	723,313
German	46	114,100	63	157,221	80	176,086	54	128,866
Japanese	—	—	6	15,400	24	50,200	17	30,994
Norwegian	31	42,550	33	45,201	15	21,937	8	13,155
Danish	—	—	3	7,497	7	17,583	4	10,250
Swedish	2	2,432	6	6,386	3	2,995	5	7,379
Austro-Hungarian	2	4,880	2	5,779	1	2,337	2	5,882
Belgian	—	—	—	—	1	2,903	—	—
French	6	9,080	2	2,283	—	—	2	5,722
Italian	2	3,427	2	3,100	—	—	—	—
American	1	2,574	—	—	—	—	—	—
Russian	—	—	—	—	—	—	1	2,243
Total	961	1,496,837	961	1,568,858	958	1,641,383	1,041	1,854,541

PORT OF SEMARANG.

Nationality.	1905.		1906.		1907.		1908.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
Dutch	514	724,439	509	792,632	556	903,231	584	1,042,756
British	210	443,909	194	404,266	205	480,040	243	572,300
German	44	105,518	52	144,465	73	176,682	55	140,472
Japanese	—	—	3	6,877	17	39,828	14	32,494
Danish	—	—	—	—	4	9,042	3	7,762
Norwegian	38	45,413	25	30,036	8	8,831	8	11,150
Austro-Hungarian	—	—	1	2,600	1	1,280	2	6,137
Swedish	5	5,666	5	4,868	1	988	4	6,300
Italian	2	3,457	2	2,713	1	1,740	—	—
Spanish	—	—	1	2,917	—	—	—	—
American	1	2,574	—	—	—	—	—	—
French	1	2,750	1	612	—	—	4	12,482
Russian	—	—	—	—	—	—	1	2,244
Total	815	1,333,720	793	1,301,986	866	1,621,668	919	1,834,277

overland route to Naples, however, was found too long, and subsequently passengers and mails were taken on board and delivered at Marseilles, and later on at Genoa, when labour troubles in Marseilles made it desirable for the Company to change to an Italian port.

From year to year the Company has extended its fleet and made its sailings more frequent. Starting with four-weekly intervals, it proved necessary in 1877 to despatch a steamer every three weeks, and only two years later a fortnightly service was established. New and larger steamers, with higher speed, were built, and, in 1882, the Company was in a position to have a vessel ready for departure every ten days. The merchants and the general public desiring a weekly service, steps were taken to meet their wishes, and, in 1892, the "Nederland" Line agreed with the "Rotterdam Lloyd," a company under the management of Messrs. Ruys & Co., which had been established in Rotterdam in 1873, to maintain such a service between them, each company despatching a vessel to the Indies every alternate week. A contract was signed for both companies with the Dutch Government to maintain such a mail service for fifteen years.

At the present time, the "Nederland" Company's fleet consists of the following mail steamers:—

Groenius	3,702	N.R.T.
Rembrandt	3,719	"
Koning Willem III.	2,872	"
Koning Willem I.	2,851	"
Vondel	3,713	"
Oranje	2,798	"
Koning Willem II.	2,684	"
Koningin Wilhelmina	2,735	"

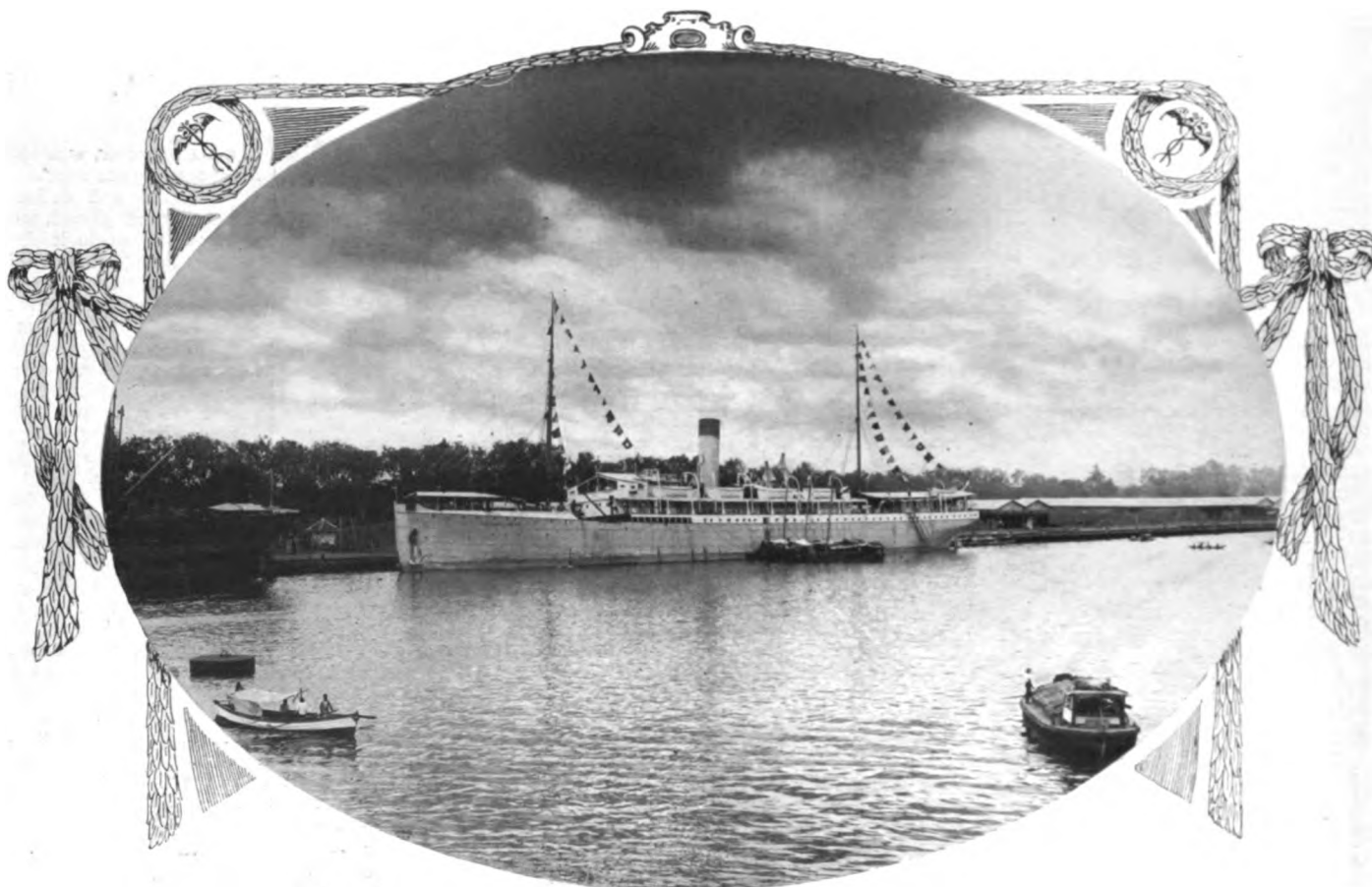
while another vessel of 5,000 N.R.T. is now on order.

The cargo fleet comprises:—

Nias	3,766	N.R.T.
Billiton	3,754	"
Sumatra	3,760	"
Celebes	3,562	"
Lombok	3,585	"
Java	3,000	"
Timor	2,812	"
Flores	2,828	"
Ambon	2,805	"
Ceram	2,760	"
Madura	2,594	"
Soembawa	2,573	"
Bali	2,555	"
Banda	2,477	"

In 1890, the Koninklijke Paketvaart Maatschappij was founded by the combined action of the "Nederland" and "Rotterdam Lloyd" as a feeding line for the homeward steamers, bringing in cargo from all the outports in the East Indian Archipelago, and thus leading the trade away from Singapore to Macassar and Batavia.

In 1902, through the influence of the directors of the Nederland Company and Mr. Helderling, of the Royal Dutch Steamship Company, a company which maintains many cargo services in Europe, the Java-China-Japan Line was established to carry out a contract with the Netherlands Government for the maintenance of a four-weekly service between Java-Macassar and China and Japan. The line obtains a subsidy from the Government, but owing to the enormous number of Japanese tramp vessels trading on similar routes, the result of the enterprise, up to the present, has not been very encouraging. However, the crisis in Singapore, together with the low dollar-rate in China, has diverted a good deal of the cargo from its



DE SCHEEPSAGENTUUR.
S.S. "KONING WILLEM III." (S.N.C. "NEDERLAND.") ENTERING TANDJONG PRIOK HARBOUR.



DE SCHEEPSAGENTUUR.
1. S.S. "REMBRANDT" (S.N.C. "NEDERLAND") IN TANDJONG PRIOK HARBOUR.

2. SMOKING ROOM, S.S. "REMBRANDT."

original route via Singapore to the direct line, and prospects are somewhat brighter for the near future, although the decrease in sugar consumption in Japan, on account of the high duty levied on this article since 1907, and the increase of the Formosa crop, together with the splendid results obtained in the beet sugar manufacture in Manchuria, leave the final success of this line a still doubtful matter. The Company's fleet at present consists of six steamers :—

Tjipanas	...	...	2,444	N.R.T.
Tjilatjap	...	...	2,470	"
Tjimahi	...	...	2,476	"
Tjibodas	...	...	2,953	"
Tjiliwong	...	...	3,052	"
Tjikini...	...	...	2,888	"

Its policy has been regulated by a strong board of directors, presided over by a chairman who has been a member of the Company for more than a quarter of a century. That policy has always been an enterprising one, and, besides bringing the Company to its present position of prosperity, has very considerably benefited the nation as a whole. When the "Nederland" Line was established, Messrs. J. Daendels & Co., shipbrokers, were appointed its agents in Batavia. The senior partner of this firm retired in 1883, but the Company still retained the agency, and did a good deal towards helping the "Nederland" Line to establish its reputation. In 1887, Daendels & Co. were transformed into a limited liability company under the name of the

ROTTERDAMSCH-LOYD STEAMSHIP COMPANY.

THIS important Steam Navigation Company maintains a regular fortnightly service to and from Rotterdam and Java, and since 1892 it has, in co-operation with the "Nederland" Line, constituted a weekly alternative mail service, accorded to those two lines by the State of the Netherlands. The Company's fleet consists of twenty up-to-date steamers, varying from 3,300 to 8,600 tons burden, and comprising a total carrying capacity of about 113,000 tons. Nine of the steamers of this line, namely, the *Goenboer*, *Sindoro* (both twin screw), *Rindjani*, *Kawi*, *Ophir*, *Willis*, *Tabanan*, *Tambora*, and *Gede* are mail and passenger steamers; the eleven others: the



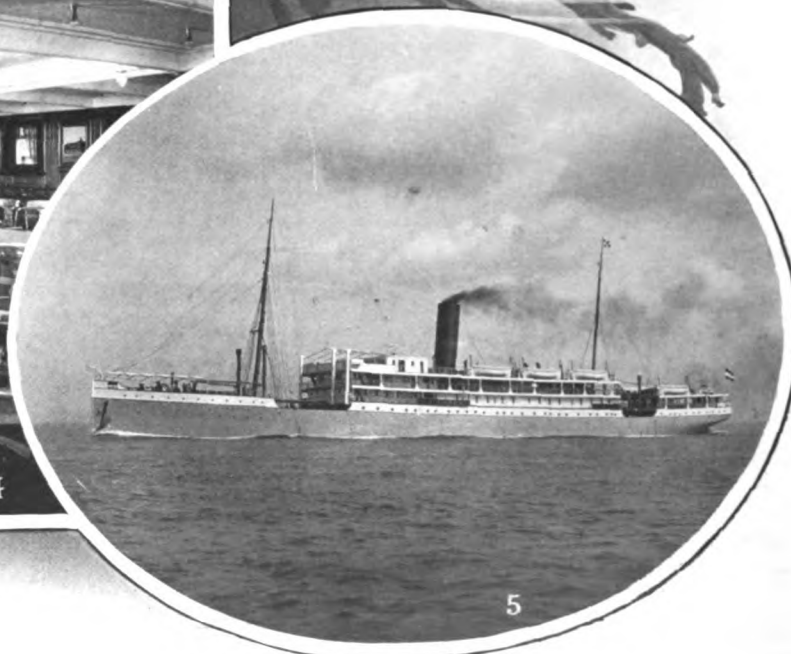
OFFICE OF THE ROTTERDAMSCH-LOYD, ROTTERDAM.

In 1905, the Java-Bengal Line was started by the "Nederland" and "Rotterdam Lloyd" Companies for the conveyance of sugar, principally from Java, to Rangoon and Calcutta. Owing to the competition of the Asiatic and British India S.N. Companies, the line had a severe fight to maintain its position, but gradually it is getting its share of the trade between India and Java, all of which formerly went through Singapore. As the sugar exports to Burma, Bengal, and the west coast ports of India are steadily increasing, it is expected that the line will have to be extended shortly.

The "Nederland" Line has been an exceedingly important factor in extending Dutch shipping interests during the last thirty odd years. So much is easily seen from the briefest *résumé* of its activities.

"Ship's Agency, late J. Daendels & Co." At that time the Company had their headquarters at Batavia, with branches in Semarang, Sourabaya, Macassar, and Padang. Subsequently, they opened agencies in Singapore, Tandjong Priok, and Sabang, and are now the largest company interested in shipping only that is to be found in Netherlands India. Besides acting as head agents for the "Nederland" Line and Java-Bengal Line, the Company are agents also for the Koninklijke Paketvaart Maatschappij and Java-China-Japan Line. In December, 1908, the name of the Company was altered to "De Scheepsagentuur." A director of the Company at Amsterdam now superintends the general conduct of the business, while the agencies above mentioned are under the charge of two head agents at Batavia.

Bengalen, Besoecki, Bogor, Djocja, Gorontalo, Kediri, Malang, Medan, Menado, Solo, and Ternate, carry cargo only. A great extension and renovation of the fleet was begun in 1900, seven of the mail and eight of the cargo steamers having been built since; and all these steamers are fitted with splendid first and second-class accommodation. The first-class passengers are accommodated amidships; the second class aft. The cost of this new mail fleet, which was built by the Royal Company "De Schelde" of Flushing, amounted to 124 millions of florins (equal to £1,033,000). The cargo boats, which are of much greater tonnage than the passenger steamers, were formerly built in England and Germany, but at the present time some are also constructed in Holland, by the firm of Bonn & Mees, of Rotterdam.



ROTTERDAMSCH-LOOYD STEAMSHIP COMPANY.

- | | |
|--|-----------------------------------|
| 1. PROMENADE DECK, S.S. "KAWI." | 3. LIBRARY, S.S. "TABANAN." |
| 2. SMOKING SALOON, S.S. "OPHIR." | 4. DINING SALOON, "S.S. TABANAN." |
| 5. MAIN AND PASSENGER STEAMER "TABANAN." | |

The journey by the mail line from Rotterdam to Batavia occupies thirty-six days, whilst passengers embarking at Marseilles reach Colombo, Padang, and Batavia within seventeen, twenty-two, and twenty-four days respectively, the steamers calling *en route* on the outward voyage at Southampton, Lisbon, Tangier, Marseilles, Port Said, Suez, Colombo, Padang (Sumatra), and Batavia. The homeward journey occupies four days less, Lisbon and Southampton being omitted from the list of ports of call. Passengers for Batavia are allowed to land at Padang for the purpose of seeing that place and its environs, and thence continue their voyage to Batavia either by one of the Rotterdam-Lloyd steamers or by one of the steamers of the Royal Packet Company. The call at Southampton on the outward journey allows a visit to the Isle of Wight or to London, for which special facilities are made, and a stay of over twenty-four hours both at Lisbon and Marseilles gives opportunities for visiting these towns and their surroundings, whilst the steamers also call at Tangier to and from Marseilles.

A new feature introduced by the Rotterdam-Lloyd Line is the service of "Round-the-World Tours," arranged in co-operation with the Pacific Mail Lines and the American and Canadian Railways, two years being allowed to complete the tour, which may be taken in either direction. Six alternative routes are included in this service, three of which include a trip through the island of Java.

The Rotterdam-Lloyd Mail Line, which in 1908 celebrated its silver jubilee, had its origin at the time when a regular service of sailing vessels was maintained between Rotterdam and the Dutch colonies, some seventeen of these ships being under the control of Mr. Willem Ruys I. Azn, who was the founder of the line. The first vessel to run in this service was the barque *Drie Gebroeders* (Three Brothers), of 450 tons, which left Rotterdam on September 11, 1844, for Batavia. At a later date, Mr. Ruys established the firm "Wm. Ruys & Zonen," his son Willem becoming his partner. In 1870, Mr. D. T. Ruys, a member of this firm, combined with the Commercial Steam Navigation Company of London in instituting a service of steamers between Holland and England and the Dutch East Indies, and in 1873 and immediate subsequent years the steamers *Wyberlon*, *Harrington*, and *Kingslon* of the latter company, together with the Dutch steamers *Groningen* and *Friesland*, were put on the line to the East, thereby laying the foundation to a steam navigation line which developed into the Rotterdam-Lloyd. In 1881, four steamers of the Commercial Steam Navigation Company were purchased by a new Steam Navigation Company, the "Rotterdam," and these vessels, together with those belonging to Messrs. Ruys & Zonen, formed the first fleet of the "Rotterdamsche-Lloyd" Steamship Company, which corporation was formed and commenced operations in 1883.

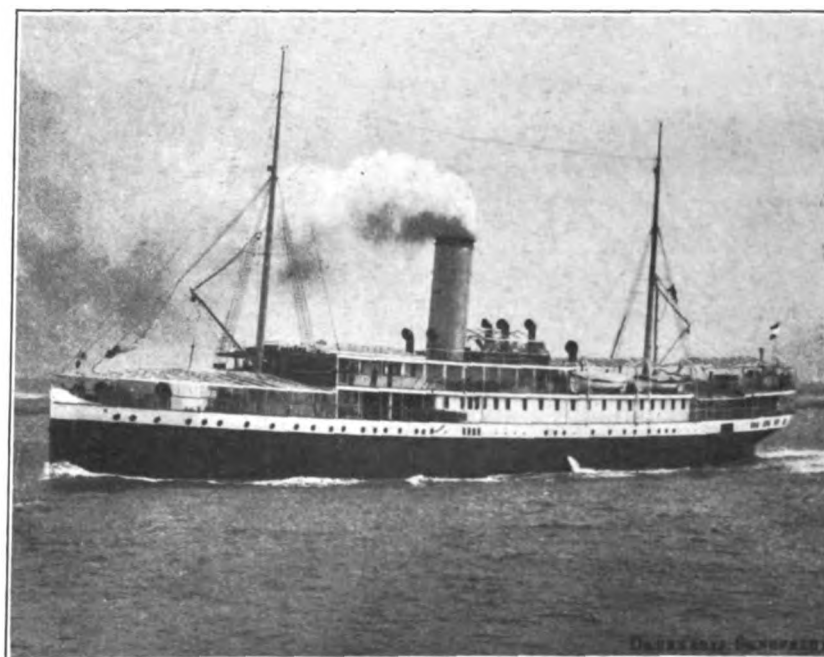
ROYAL DUTCH PACKET COMPANY

(Koninklyke Paketvaart Maatschappij).

THE regular steamship service between the different parts of the Netherlands India Archipelago properly dates from the last years of the first half of the nineteenth century. In the beginning, a regular service was maintained between Batavia, Semarang, and Sourabaya by a single steamer belonging to the Netherlands India Steam Navigation Company, no subsidy being granted by the Government, whilst a steamer of the Colonial

Government Marine was despatched monthly with the mails for Europe, from Batavia to Singapore, calling at Muntok and Rhio. In 1850 a monthly service between Sourabaya and Macassar was started, by way of trial, with a single steamer belonging to a private concern. In the same year the Netherlands India Steam Navigation Company were granted a loan by the Government for the building of a second steamer, and a provisory agreement was made with Mr. Cores de Vries for the maintenance of a regular steamship service between Batavia and Padang; Batavia and Macassar via Sourabaya, and Macassar-Menado via Amboina and Ternate. In 1854 the Government entered into a definite agreement with Mr. Cores de Vries for a period of five years, on condition that from June 1, 1854, the following regular services were maintained:—Batavia, Semarang, Sourabaya, Macassar, Banda, Amboina, Ternate, Menado, Macassar, Sourabaya, Semarang, Batavia; Batavia, Muntok, Rhio, Singapore, and back. A contract (for a period of four years), coming

into force on May 1, 1854, was also made with the Netherlands India Steam Navigation Company for the conveyance of the mails from Batavia to Singapore. This contract was extended until May 31, 1850, and again continued until the end of 1860, while Mr. Cores de Vries' contract for the other services was extended until May 31, 1865. On July 21, 1863, tenders were invited for the maintenance of the following services during a period of ten consecutive years (1866-75):—Fortnightly from Batavia via Muntok and Rhio to Singapore and back with same ports of call, with a branch line from Muntok to Palembang and back. Weekly from Batavia via Semarang to Sourabaya and back via Semarang. Once a month from Sourabaya to Macassar, Timor, Koepang, Banda, Amboina, Boeroe, Ternate, and Menado (or Kema), and back to Sourabaya via Macassar, the route to be reversed alternately. Once a month from Batavia to Pontianak and Singka-



S.S. "RUMPHIUS" OF THE KONINKLYKE PAKETVAART MAATSCHAPPIJ.

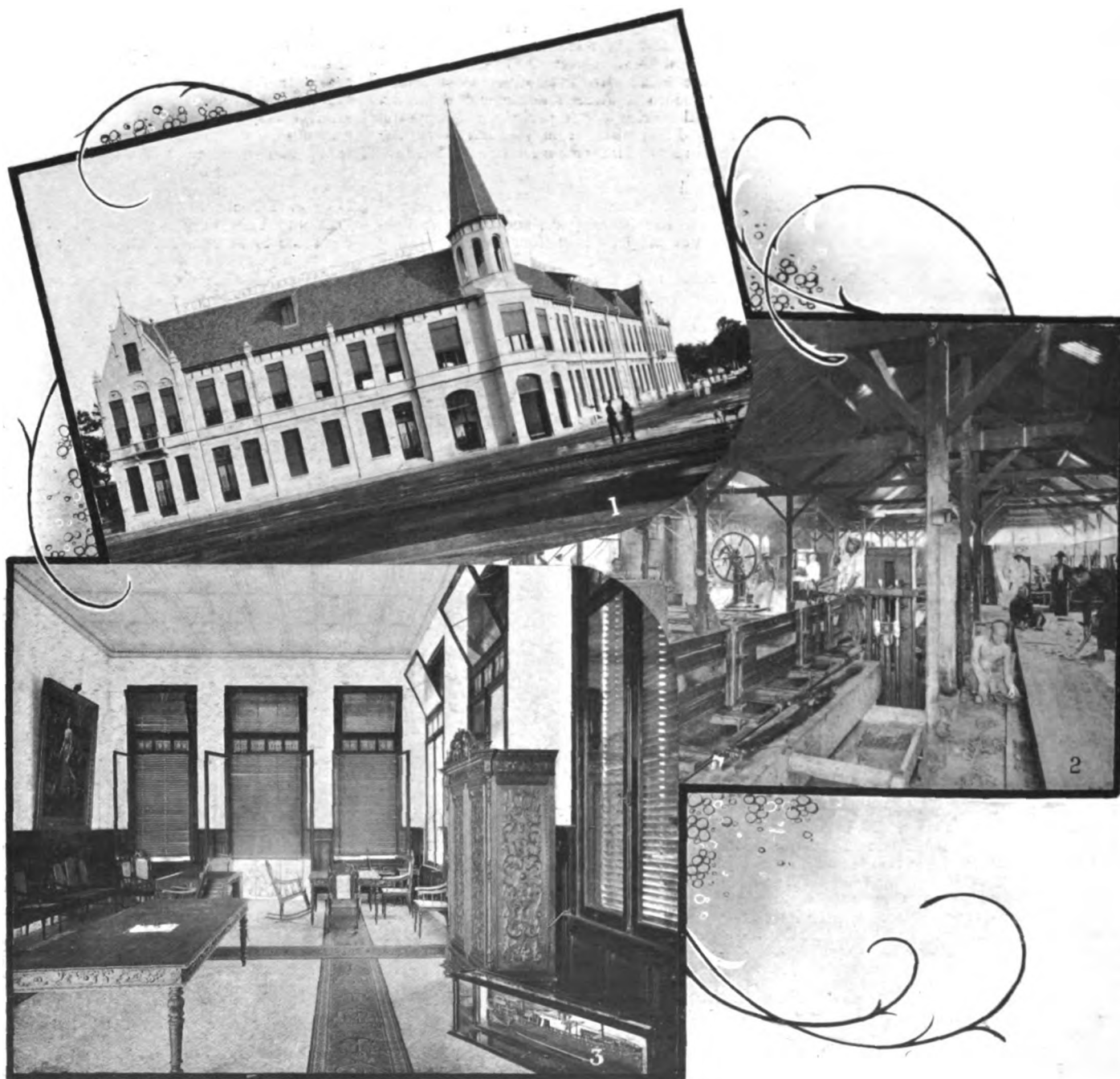
wang, and back to Batavia via Pontianak; Tandjong, Pandan (Billiton) to be visited on the outward and home voyages alternately. Twice a month from Batavia via Bencoolen to Padang, and back to Batavia via Bencoolen, calling once a month at Telok Betong and Kroë, and once in two months at Engano, both outward and homeward. Once a month from Sourabaya via Bawean to Bandjermasin, and back to Sourabaya via Bawean. Once a month from Batavia via Muntok to Palembang, and back to Batavia via Muntok. Once a month from Batavia via Anjer to Tjilatjap, and back to Batavia via Anjer. Once a month from Sourabaya to Pasoeroean, Probolinggo, Besoeki, Banjoewangi, and Bah-Boceleng, and back to Sourabaya, with same ports of call. Once a month from Padang via Priaman, Ajer-Bangis, Natal, Si-Bolga, Baros, and Singkel to Goemoeng Sitch, and back to

Padang via Si-Bolga, Natal, Ajer-Bangis, and Priaman. Once a month from Rhio via Bengkalis, Siak, Paneh, Asahan, and Deli to Langkat, and back to Rhio with same ports of call.

In 1888, negotiations were opened for the maintenance of the mail services in the Netherlands India Archipelago during the period 1891-1905, and the contract was given

Paketaart Maatschappij, with a capital of G. 9,000,000. Mr. L. P. D. op ten Noort was appointed manager of the Company, and immediately commenced making the necessary arrangements for building new steamers properly fitted for tropical service, and, a year later, Mr. L. J. Lambach, who had been for four years in the employ of the Netherlands India Steam Navigation Company

each of 825 tons net register; *de Carpentier* and *Van Diemen*, each of 766 tons; *Reynst*, *Van Goens*, and *Speelman*, each of 642 tons; *Reyniersz*, *Swaerdecroon*, and *Van Riebeeck*, each of 388 tons; and *Camphuys*, of 424 tons; making in all 8,346 tons net and 13,625 tons gross register. These steamers were all built on Dutch wharves, delivered in due time, and despatched to Netherlands India. Mr. op



KONINKLYKE PAKETVAART MAATSCHAPPIJ.

1. HEAD OFFICE.

2. WORKSHOP, TANDONG PRIOK.

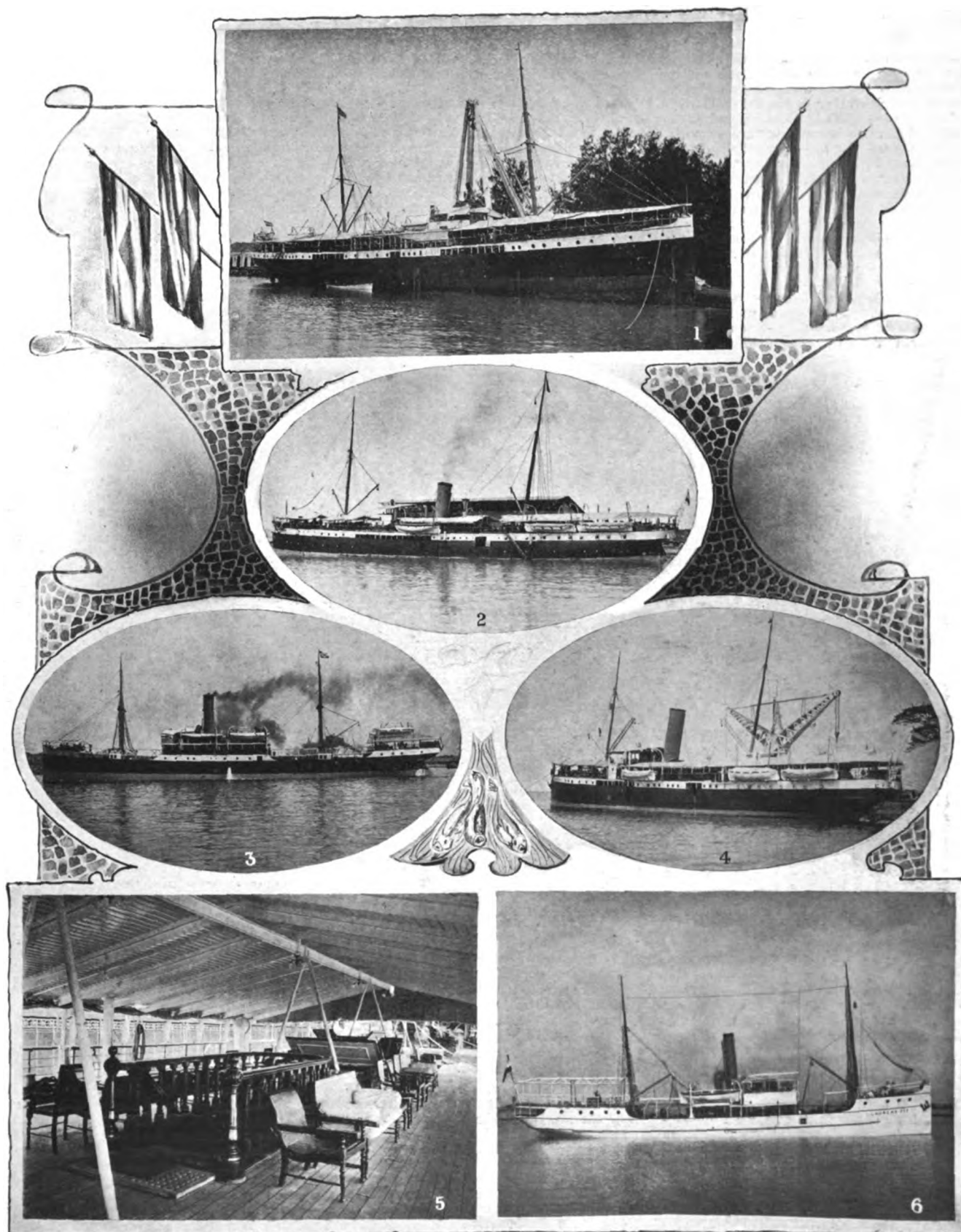
3. BOARD ROOM.

to Messrs. J. Boissevain and P. E. Tegelberg, directors of the Netherlands Steamship Company of Amsterdam; and Mr. R. Ruyst director of the Rotterdam Lloyds Steamship Company of Rotterdam. On August 12, 1888, these gentlemen established a company in Amsterdam under the name of the Koninklyke

at Batavia and had meanwhile been appointed chief of the "General Service" department, commenced to fix the tariffs for freight, the passage-money, and to arrange the general administrative details.

In the first instance thirteen steamers were built, viz., *Both*, *Coen*, *Maetsuycker*, and *Reacl*.

ten Noort, who had been appointed chief agent of the new enterprise, proceeded, in July, 1890, to Java, and was shortly afterwards followed by Mr. Lambach and staff. The head agency was established at Batavia, in the Kali Besar, and everything put in working order, so that on January 1, 1891, the Company



STEAMERS OF THE KONINKLYKE PAKETVAART MAATSCHAPPIJ.

1. S.S. "VAN RIEMSDYK."
2. S.S. "DE CARPENTIER."

3. S.S. "VAN HOORN."
4. S.S. "VAN DIEMAN."

5. FIRST CLASS DECK ON STEAMER ON SINGAPORE-BATAVIA RUN.
6. S.S. "LAURENS PIT."

were able to start business in full swing.

The different services maintained under contract were as follows:—*Service No. 1*, fortnightly:—From Batavia via Telok Betong, Kroë, Bencoolen, Padang, Olehleh, and Segli to Idi, and back to Batavia, with same ports of call. *Service No. 2*, four-weekly:—From Padang via Priaman, Ajer-Bangis, Natal, Si-Bo'ga, Baros, Singkel, Gœnbeng-Sitoli, Troemon, Tapat-toean, Soesoe, Analiboe, Rigas, and Patih to Olehleh, and back to Padang, with same ports of call. *Service No. 3*, fortnightly:—From Batavia via Muntok and Rhio to Singapore, and back to Batavia, with same ports of call. *Service No. 4*, four-weekly:—From Batavia via Muntok, Palembang, Moeara-Saba, and Simpang, to Djambi, and back to Batavia, with same ports of call. *Service No. 5*, four-weekly:—From Batavia via Belawan, Edi, Belawan, Tandjong-Balei,

Ternate, Gorontalo, Menado, Amoerang, Kwandang, Toli-Toli, Palos-bay, Paré-Paré, and Macassar, back to Sourabaya. *Service No. 10*, four-weekly:—From Macassar via Bonthain, Boelecomba, Saleyer, Sindjai, Palima, Paloppo, Boeton, Kendari, and back to Macassar, with same ports of call. *Service No. 11*, four-weekly:—From Macassar via Bima, Waingapoe, Ende, Savoe, Rotti, Timor Koepang, Alor, Atapoepoe, Timor Koepang, Larentoeke, Maoemeri, and Bima, back to Macassar. *Service No. 12*, once in two months:—From Amboina via Banda, Gisser, Sekar, Skroe, Toetal, Lelingloewan (Larati), Oearatan (Sjerra), Tepa (Babber), Woeloe (Damar), Serwaroe, Kisser, Ilwaki, and Banda, back to Amboina. *Service No. 13*, once in twelve weeks:—From Amboina via Wahaai, Ternate, Gani, Patani, Saonek, Samate, Doreh, Roon, Ansoes, Djamna, Humboldts-

necessitated an enlargement of the Packet Company's capital to the amount of Fl. 3,000,000, which sum was obtained by a 4 per cent. loan. With the purchase of these steamers, *Generaal Pel*, G.G. *Loudon*, *Tambora*, *Graaf van Bylandt*, *Japara*, *Prins Alexander*, *Baweau*, *Van Lansberge*, G.G. *Myer*, *Amboina*, *Min*, *Fransen van de Putte*, *Siak*, *Karang*, *Ophir*, *Sindoro*, and *Sumbawa*, the fleet would have consisted of twenty-nine steamers with a net tonnage of 23,200 and gross-tonnage of 30,000 tons. The last-named steamer, however, was destroyed by fire about the end of 1890, and the purchase agreement was cancelled, whilst the new *Reynst*, stranded on January 22, 1891, near Boeton, became a total loss. On the other hand, the G.G. *Jacob*, was purchased from the Steam Navigation Company "Phoenix," the fleet consequently consisting of twenty-



HARBOUR AND CANAL SCENES, SOURABAYA.

1. THE KALI-MAS.

2. LANDING PLACE.

3. THE ROADS.

Labuan-Bilik, Bengkalis, Siak, Bengkalis, Labuan-Bilik, Tandjong-Balei, and Belawan, back to Batavia. *Service No. 6*, four-weekly:—From Batavia via Tandjong-Pandan to Pontianak, and back to Batavia, via Tandjong-Pandan. *Service No. 7*, weekly:—From Batavia via Semarang to Sourabaya and back, via Semarang, the ports of Cheribon, Tegal, and Pekalongan to be visited every alternate voyage, both outward and homeward. *Service No. 8*, four-weekly:—From Sourabaya via Sangkapoera (Baweau), Bandjermasin, and Kota Baru, to Samarinda (Cootie), and back to Sourabaya, with same ports of call. *Service No. 9*, four-weekly:—From Sourabaya via Macassar, Amboina, Banda, Amboina, Kajeli (Boeroe), Batjan,

bay, Djamna Ansoes, Roon, Doreh, Samate, Saonek, Patani, Gani, Ternate, Wahaai, Amboina, Banda, Gisser, Sekar, Skroe, Dobo, 141st degree longitude on the south coast of New Guinea, Dobo, Skroe, Sekar, Gisser, and Banda, back to Amboina.

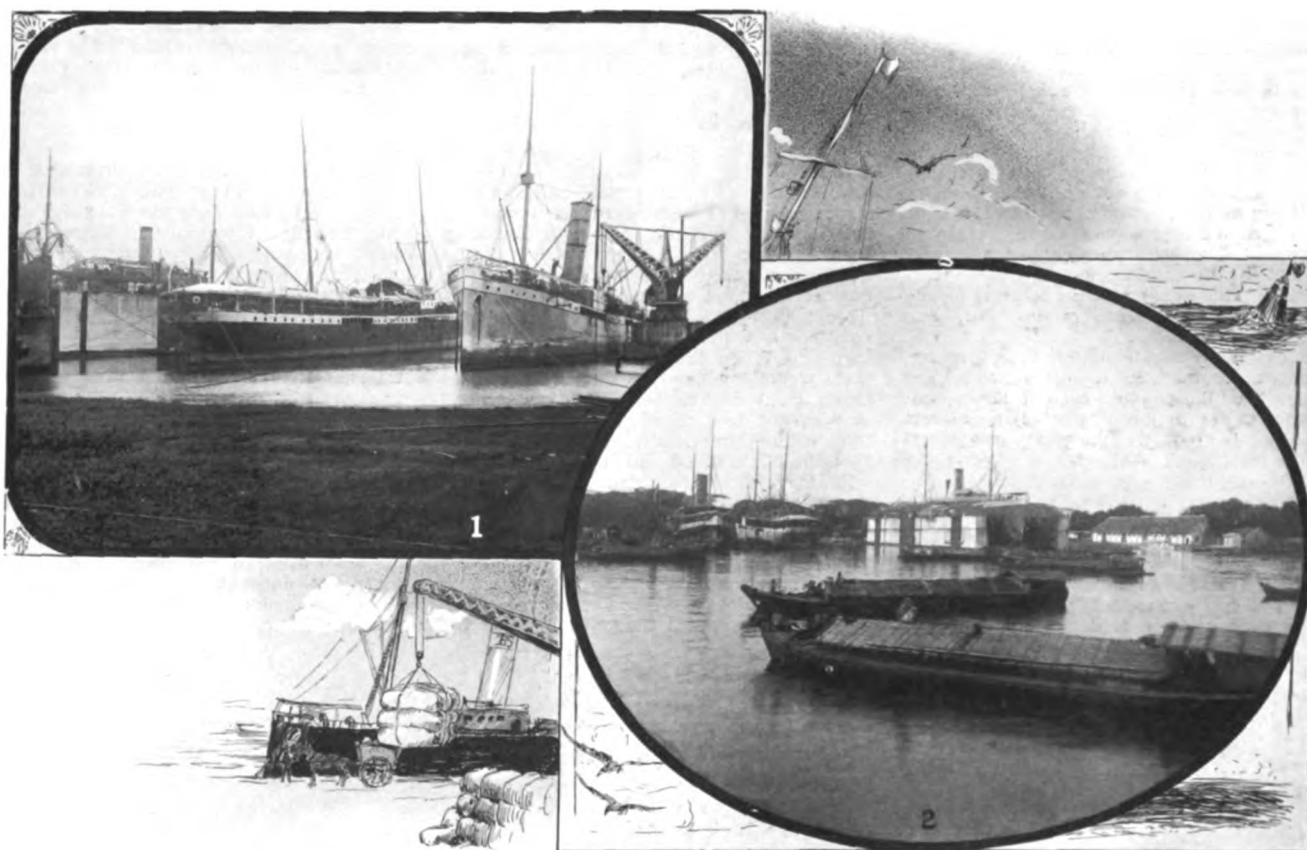
Early in 1889, an agreement was made with the Netherlands India Steam Navigation Company to the effect that from January 1, 1891, this Company were to cease carrying on any further steamship business in the Netherlands India Archipelago, the Royal Dutch Packet Company taking over from them: sixteen steamers, coal-stocks, warehouses and wharves, and the greater part of the staff, including captains, officers, engineers and shore employes. This purchase

eight steamers during the first year. With this relatively large number of ships, in regular operation, the traffic in the archipelago was considerably increased, and trade, industry, and agriculture received a great impetus. During the first year of their activities the Royal Dutch Packet Company erected a store-house and workshop at Tandjong Priok, a repairing-shop and dry-dock being provided by a private concern. It would take, however, far too long to give a detailed report of how the Company, by initiative and enterprise, have gradually secured their present influential position in the carrying trade of Netherlands India. Attention must be confined to the most important details.

The management of the Company in Netherlands India remained, till June, 1893, in the hands of Mr. L. P. D. op ten Noort, when, being compelled, through illness, to return to Europe, he was succeeded by Mr. E. G. Taylor. On April 13, 1906, Mr. Taylor went home, and Mr. L. J. Lambach, the present chief agent, was appointed.

The fleet has been considerably extended, and new steamers are continually being added. Most of the earlier steamers have been gradually replaced by new and larger boats, the majority of which have been built on Dutch wharves. The record of the fleet, however, has not been entirely free from mishaps. On March 3, 1898, *G.G. London* struck a reef near Saleyer and was lost. The *Lambora* was stranded on April 24, 1901, on the north coast of Larat, and became a total

	Net tons.	Gross tons.		Net tons.	Gross tons.
's Jacob ...	1,874	2,088	de Carpentier ...	706	1,245
Baud ...	1,080	2,777	Japara ...	748	1,198
Rochussen ...	1,695	2,777	Altling ...	795	1,158
Camphuys ...	1,696	2,776	Van Goens ...	644	1,066
Van den Bosch ...	1,696	2,776	Speelman ...	639	1,063
Van Riebeeck ...	1,670	2,755	Van der Lyn ...	601	990
Jacoba ...	1,310	2,170	Van Hogendorp ...	393	657
Bantam ...	1,323	2,114	Merkus ...	380	633
de Klerk ...	1,265	2,035	de Kock ...	336	566
Van Riemsdyk ...	1,268	2,032	Van der Parra ...	332	550
Rumphius ...	1,246	2,548	Brouwer ...	324	545
Duymaer van Twist ...	1,240	1,994	Valentyn ...	248	520
Pahud ...	1,235	1,994	Laurens Pit ...	154	265
Mossel ...	1,218	1,951	de Greve ...	2,257	3,670
Van Imhoff ...	1,220	1,944	Borneo ...	1,367	2,167
Van Swoll ...	1,132	1,814	Tasman ...	1,020	1,644
Van Hoorn ...	1,011	1,676	Benoa ...	170	336



DRY DOCK COMPANY.

1. NEW SHIPWAY, TANDONG PRIOK.

2. VIEW OF THE COMPANY'S DOCKS.

loss. The *Camphuys* was totally burnt on October 25, 1902, near the isle of Boano. The *Reyniersz* was destroyed by fire on January 23, 1907, at Singapore, the cause remaining unknown, and finally the *Diambi* while loading at the wharf at Singapore on January 11, 1909, was struck amidships by the *Messageries Maritimes* ss. *Polynesian*, and became a wreck.

The Company's fleet at present consists of :

	Net tons.	Gross tons.
Van Nek ...	1,901	3,037
Le Maire ...	1,893	3,026
Van Spilbergen ...	1,868	2,995

de Haan ...	904	1,093
Reyniersz ...	902	1,093
Swaerdecroon ...	900	1,700
Houtman ...	1,035	1,604
Van Outhoorn ...	954	1,543
Reynst ...	830	1,359
Maetsuycker ...	827	1,337
Reach ...	825	1,333
Coen ...	823	1,332
Both ...	827	1,332
Jaanssens ...	803	1,331
de Eerens ...	795	1,315
G.G. Daendels ...	773	1,295
Van der Capellen ...	774	1,295
Van Diemen ...	766	1,246

Brandan ...	176	313
Kalmoe ...	175	300
Kapoeas ...	93	164
Ogan I. ...	90	111
Negara ...	74	101
Ogan II. ...	66	68
Dordt ...	65	101

making in all 54,017 tons net and 80,141 tons gross tonnage, or three times the capacity of the fleet on the formation of the Company.

Yet, enlarged as the fleet is, it is still unable fully to meet the requirements of the rapidly increasing trade and industry of the archipelago, and four large additional steamers of about 2,000 tons net and 3,200 gross each

and one steamer of about 600 tons net and 910 tons gross, are being built at the present time, while for the river navigation two small steamers of about 175/300 tons have been ordered.

In looking back upon their record and reviewing the results which have been achieved, the Company may certainly be allowed some little pride. In the development of the Dutch East Indies during recent years their influence has been well nigh incalculable. A comparison of the steamer-connections during the first years of the company's existence with those of the present date shows that they have been doubled, while the regular ports of call have been increased in a similar ratio.

The Company's exertions, however, have not been confined to the archipelago only. About a year ago a regular service was opened to Eastern Australia, whilst other steamer connections outside the archipelago are being planned. In 1890, about 134,000 geographical miles (of four sea miles) were covered by the ships of the old Company. This distance was increased by the present Company to 188,000 geographical miles in 1891, and to 432,000 geographical miles last year. The yearly goods traffic now amounts to 800,000 tons (of which 125,000 tons goes on through bill of lading to Europe), against 200,000 tons in 1891 (of which 8,000 tons was through-cargo to Europe). The total number of passengers carried by the old Company in 1890 was 94,543. The Royal Dutch Packet Company carried 122,047 passengers in 1891, and 350,000 during 1908.

Such an extension of traffic, of course, brought an increase of office work, and necessitated the employment of a larger staff. The premises in the city of Batavia were changed in 1901 for the new, magnificent office building at Weltevreden. Workshops and other premises were enlarged, and the Company have now their warehouses and wharves, coal sheds and liquid fuel tanks everywhere in the archipelago.

It may be stated in conclusion that the Company have always allowed their employes to share in their general prosperity. Many who were engaged at the beginning of the

Company's operations are still in the Company's service. Others who have retired are enjoying well-earned annuities. That the present staff are well provided for there is no question. In case of illness the navigating staff may obtain excellent treatment in the Sanatorium at Soekaboemi. Officers or engineers, who wish to go ashore at Batavia, find a recreation hall and comfortable lodgings at the Company's "Home" in Weltevreden. All of the Company's employes, after serving a certain number of years, are entitled to inland leave of absence or six months' furlough to Europe on half-pay, with free passage out and homeward; and, last but not least, officers and engineers are regularly enabled to obtain their certificates for the higher ranks by following a term of the Company's own course of instruction.

The Company enjoy the reputation in Netherlands India of being a model company. They have justly earned such a title and seem fully determined to maintain it.

DRY DOCK COMPANY: TANDJONG PRIOK.

AN industrial enterprise, which, under private management, has become of very considerable importance to the shipping interests of Batavia during recent years, is that of the Dry Dock Company at Tandjong Priok. The engineering shops now used by the Company were built by the Government for use in connection with the construction of the harbour. When the harbour was completed, the works, which still remained under Government control, were used as general engineering and repairing shops. After a long trial, however, the Government found that the undertaking did not pay, and in 1891 they leased the works to Mr. D. Croll, of Rotterdam, a well-known Dutch engineer, and at the same time granted him a concession for the construction of a new and larger dock. At this time the works were, comparatively speaking, small. Since then, however, private initiative and enterprise have brought about many changes. The

works have not only been enlarged very considerably, but are now a distinct commercial success.

The floating dock, for which Mr. Croll obtained the concession, was built in Holland, and sent out in plates and angle bars and riveted together at Tandjong Priok. It measures 324 feet in length, is 67 feet wide inside, and has a draught of 22 feet. The dock was first used in 1896, and has proved the greatest boon to the shipping, being almost constantly in requisition. It is regarded as being capable of lifting vessels of 4,000 tons weight, but, as a matter of fact, it has been used successfully to examine the propellers of much larger ships by tilting it in such a way that the propeller comes clear from the water. If at some future date the dock proves too small to accommodate the ships calling at Tandjong Priok, which have a tendency to become larger and larger each succeeding year, it can be easily and considerably lengthened by the addition of one or more sections. Besides the dock, the Company have a slipway capable of carrying ships up to 2,000 tons in weight, where extensive repairs have been carried out.

The works are excellently situated at the entrance to the inner harbour. They cover a large area, and have an extensive deep water frontage. They include a turner's and fitter's shop, a forge, an iron and brass foundry, a coppersmith's and carpenter's shop, and a general repair shop, all equipped with labour-saving tools and appliances. Repairs to ships and machinery of all kinds are carried out speedily and efficiently by trained Chinese and local native workmen, who are, in each department, under the supervision of skilled European engineers and foremen. For lifting heavy weights in and out of ships, the Company employ a large steam crane capable of raising 25 tons.

The works are the property of a Rotterdam limited liability company, of which Mr. D. Croll is the head manager. Mr. J. J. de Gast has been the local manager for the last two years, and under his supervision the works have been maintained in excellent condition and much important work carried out.



ACHIN MONUMENT, BATAVIA.



OFFICES OF THE NEDERLANDSCH INDISCHE SPOORWEG MAATSCHAPPIJ, SEMARANG.

MEANS OF COMMUNICATION.

RAILWAYS AND TRAMWAYS.

By E. WELLENSTEIN, Chief Engineer of the Java State Railways.



PLANS for the construction of a system of railways in Java were drawn up as far back as 1840, but it was not until 1867, or more than a quarter of a century later, that the first 25 kilometres of railway line—from Semarang to Tanggoeng—were opened to traffic. The long delay was occasioned by the conflicting interests of the State and private enterprise. With her comparatively limited resources, Holland had to exercise the greatest care before entering into new financial responsibilities, and could not see her way clear to take up a scheme of railway construction proportionate to the requirements of her rich and thriving colonial possessions. On the other hand, the prospects of a profitable return upon the money invested were not sufficiently alluring to attract much private capital.

In 1841 the Government invited tenders for building the line between Semarang and the Vorstenlanden. It was suggested that the track should be for horse tramways, and the Government not only promised to assist in the undertaking in every way possible, but, under certain specified conditions, guaranteed the payment of interest upon the money invested. No one appeared willing to embark upon such an enterprise as this, and, in the meantime, various changes having taken place in the Cabinet in Holland and Mr. Rochussen having assumed the position of Governor-General in Netherlands India, the principle of state ownership of all railways

was vigorously advocated. The Netherlands Indian Government wished to open negotiations at once for the construction of a system of State Railways, but the Minister for the Colonies at The Hague was unwilling, and matters remained in abeyance for some time. In the fifties, the Government again invited the intervention of private capital, but with no result, and in 1861 Mr. J. J. Stieltjes, an engineer of high repute in Holland, was sent to report upon the problem of internal communications. Many politicians recognised the necessity of the State undertaking the responsibility of railway construction, and doubtless about this time a commencement would have been made by the Government with such work had not Mr. Sloet van de Beele, then the Governor-General of Netherlands India, held other views. He it was who, with the sanction of the powers in Holland, gave the concession for building the Semarang-Vorstenlanden Railway. The line forms now part of the system of that most influential private railway company, the "Nederlandsch Indische Spoorweg Maatschappij," and the stretch of 25 kilometres between Semarang and Tanggoeng, which, as stated, was opened to traffic in 1867, was the first part of the line to connect the rich residencies of Djocjakarta, Soerakarta, and Kedoe with their then natural harbour of Semarang. As this was the first concession granted to a private company in Netherlands India, its most striking features may be recapitulated.

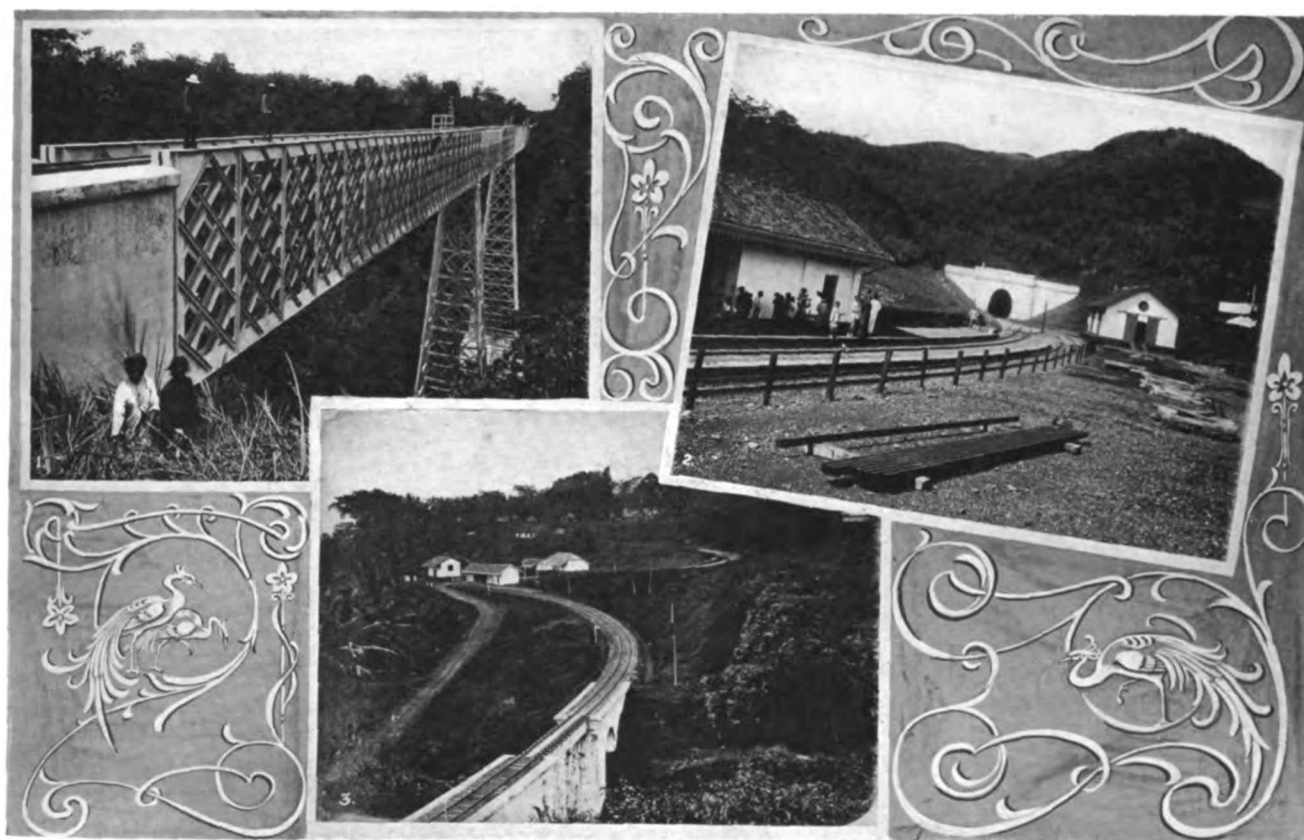
The concession was granted for a term of

ninety-nine years, after the lapse of which the whole of the railway and its properties, with the exception of the rolling stock, was to come, without the payment of compensation, into the hands of the State. At the completion of the first twenty-five years, however, and after that at every succeeding ten years, the State had the right, if it so desired, to purchase the railway at a price fixed according to certain stated rules. During the first thirty-three years the Government guaranteed interest at the rate of 4½ per cent. on the capital used for constructing and equipping the line, but the interest could not go beyond the sum of G. 630,000 (£52,500) a year. Moreover, the sums paid out by the State in interest had to be refunded as soon as a certain dividend was reached, while if still higher dividends were realised, the State claimed a share in the profits. Even with such terms as these very great financial difficulties had to be overcome, and at one time it seemed likely the project would be abandoned altogether on account of lack of funds. The Government lent money free of interest towards helping the scheme through, but even so it was not until 1872 that the whole of the line, Semarang-Soerakarta and Djocjakarta, was opened. Such difficulties as these proved a handicap to the rapid extension of the railway system through private agencies, but nevertheless the Nederlandsch Indische Spoorweg Maatschappij also took up the concession for the construction of the line between Batavia and Buitenzorg, which they opened to traffic in 1873, and carried through an extension of their

others, until at the beginning of 1900 the length of the line operated by that particular company was 395 kilometres. Other systems of tramways to which the same significance as railways must be given are the Semarang-Cheribon Line, 334 kilometres in length, and the Goendih-Sourabaya Line of 245 kilometres, belonging to the Nederlandsch Indische Spoorweg Maatschappij. The remaining companies, although possessing in some instances a considerable length of line, such as the Madoera Stoomtram Maatschappij—have only a local importance. They endeavour occasionally to bring their influence to bear upon the long distance traffic, but their powers and functions are carefully defined by legislative enactments.

TRAMWAYS. *			
Name of Company.	Length of lines in kilometres (end of 1907).	Capital outlay in guilders (end of 1907).	Cost per kilometre in guilders.
Semarang - Joana Stoomtram Maatschappij ...	395	12,543,192	31,755
Oost Java Stoomtram Mij....	79	2,292,893	32,821
Stoomtramweg Djocja-Brosot	23	596,833	25,949
Stoomtramweg Djocja - Mage-lang-Willem L.	111	8,175,728	73,655
Stoomtramweg Goendih-Sourabaya	245	13,587,420	55,422

Of the railway and tramway legislation generally little need be said. It is fundamentally identical with that of the Mother Country. Two types of railways are recognised, but the regulations affecting each are very similar, differing only in regard to the maximum speed allowed. Only one type of tramways is recognised, and, considering the important development that has taken place in these services in the past, it is certainly a matter of great regret that the many encumbrances placed by the Government upon such enterprises should now have put an end to further extensions. In this connection, however, it is satisfactory to know that radical changes are contemplated; a division will be made between tramways



VIEWS ON THE STATE RAILWAYS, JAVA.

1. BRIDGE OVER THE TUKAIENDOENG RIVER.

2. TUNNEL NEAR SOEKABOEMI.

3. RAILWAY LINE AND BRIDGE NEAR BUTENZORG.

The following figures show the development of railways and tramways in Java :—

RAILWAYS.			
	Length in kilometres.	Capital outlay in guilders (end of 1907).	Cost per kilometre in guilders.
State Railways :			
Eastern Circuit (East of Soerakarta)* ...	904	68,140,775	75,377
Western Circuit (West of Djocjakarta) ...	1,005	80,007,207	80,513
Private Railways :			
Semarang - Vorsten-landen ...	205	24,441,397	119,226
Batavia-Buitenzorg ...	56	4,179,575	74,635

* The Eastern and Western Circuit are linked by a third rail on the private company's line - Djocjakarta-Soerakarta.

Semarang - Cheribon Stoomtram Mij. ...	334	11,140,093	33,383
Serajopedal Stoomtram Mij....	91	2,035,104	32,202
Kediri Stoomtram Mij.	123	2,071,051	21,710
Malang ..	86	2,779,353	32,318
Paseroean ..	44	1,130,578	25,831
Probolinggo ..	45	1,357,049	30,156
Modjokerto ..	79	2,338,043	29,607
Babat - Djombang Stoomtram Mij. ...	68	1,790,884	26,490
Madoera Stoomtram Mij....	214	6,313,383	29,501
Line Madioen Ponorogo with extensions Ponorogo-Balong and Ponorogo-Soemorofof ...	56	1,619,000	28,928

* In this list lines of purely municipal interest are not included.
† Built and managed by the State Railways.

of primary and secondary importance, and with such division will come a lightening of the burdens placed upon the services, and, it is hoped, a renewed activity in tramway construction.

The supervision of the works, the management of the Government railways and tramways, and the general inspection of the private railway and tramway companies are now delegated to the Public Works Department. Such responsibilities, however, will be undertaken by the Gouvernements-bedryven from the middle of 1909. The daily supervision of the railways is carried out by a special staff of railway overseers. The daily supervision of the tramways was until 1900 delegated to the department of the Resident in each district, but this duty also is now carried out by the railway overseers. The director of the department of the Gouvernements-bedryven will in future be responsible

for the general inspection and, as did the Public Works Department formerly, he will make use of the staff of the State Railways for carrying through the work. Although in theory there is much to be said against allowing the management of the State Railways to become involved with the general inspection of the private railway and tramway companies, the system seems to work very well.

ORGANISATION AND RESULTS OF THE STATE RAILWAYS.

Since the Netherlands India Government set itself the task of constructing railways in 1875, its activities in this direction although regulated by financial considerations, have never been allowed to cease altogether. At the outset, all railway work, both the construction and management of the lines, was

of direct communication with the Governor-General. For the efficient performance of his various duties and responsibilities the Chief Inspector is assisted by four managers of the four sub-divisions of administration (a) for general affairs, (b) for maintenance of works and ways, (c) for supervision of engines and rolling stock, (d) for traffic, with special engineers for the supervision of bridges and the general inspection of private lines. To these, of course, are to be added the necessary number of office assistants and clerks. The actual working of the railways in Java is properly speaking controlled by two divisional managers, one for the Western system, residing at Bandoeng, the other for the Eastern system at Sourabaya, for the Java railways from the earliest times have been divided into two main divisions—East and West, a plan which, by facilitating the work of control and in other ways, has been followed by gratifying results. The two

the railway tariff for carrying sugar fluctuating in accordance with the market price of that commodity. The G. 9,845,360 gross revenue represents a daily revenue of G. 20.16 per kilometre. The average daily revenue per kilometre was G. 21.06 in 1903, G. 21.86 in 1904, G. 24.93 in 1905, and G. 26.59 in 1906. For goods traffic alone the daily revenue per kilometre was G. 12.34 in 1903, G. 13.02 in 1904, G. 14.08 in 1905, G. 15.74 in 1906, and G. 17.16 in 1907, so that it will be seen the revenue from the cartage of goods is considerably more than that obtained from passengers. Out of the gross revenue in 1907, G. 4,399,134 were swallowed up by working expenses which showed an increase of G. 380,006 on the previous year. The net return upon the Eastern system in 1907 works out at about 8 per cent. of the capital outlay, certainly a most gratifying result, even although it has to be considered that pensions to retired officials are not added to the working expenses and that there is no sinking fund for renewals. The latter consideration, however, is of little importance, for the State, far more than is usual with private companies, pay for small extensions and improvements out of revenue.

The rolling stock on the Eastern system comprises 175 locomotives, 374 carriages, 72 luggage vans, and 3,075 wagons, which, while generally sufficient, is sometimes not quite adequate to the requirements of the busy sugar season. The rails, as has been generally mentioned, weigh 25.6 kilogrammes a metre, but they are not quite up to the requirements of modern traffic, and a relaying of the track with rails one-third heavier is contemplated, as the speed of the trains is soon to be greatly increased. Coal and wood are used as fuel. The coal is mostly taken from the mines owned and exploited by the Government in Sumatra, and to a small extent from Australia; wood is found in abundance in Java and has proved exceedingly useful, as it reduces very considerably the cost of fuel used per mile.

The results of the Western system of the Government railways are certainly much less gratifying than those of the Eastern system. For this there are two reasons, each of which would be sufficient to explain the difference in the profits. In the east of Java the lines cross an absolutely flat country, so that not only was the initial cost of construction comparatively low, but the cost of working on those lines is low also. In the Western division, the lines penetrate districts which, from the engineering point of view, presented the greatest imaginable difficulties. In many instances, gradients of 40 per cent. were found necessary over distances of several kilometres, and the cost of hauling the traffic in such a country is, of course, enormous. Furthermore, the Eastern system serves a traffic which can bear high charges; the Western circuit obtains its revenue from miscellaneous sources, none of which are such as to yield a high profit. The following figures concerning the Western system will prove interesting when compared with those given above. Out of the G. 89,000,000 which the Western system had cost at the end of 1907, 11.5 millions were spent on locomotives and rolling stock; 20,000,000 on bridges, culverts, &c.; 10.5 millions on stations and other buildings; 28,000,000 on the road bed and 15,000,000 on the superstructure, miscellaneous items accounting for the remaining portion of the money. In 1907 the gross revenue amounted to G. 6,946,945, an increase of G. 768,071 on the previous year. The daily revenue per kilometre amounted to G. 16.27 in 1903, G. 16.64 in 1904, G. 17.97 in 1905, G. 17.60 in 1906, and G. 18.94 in 1907. From a further



ENGINES OF THE NEDERLANDSCH INDISCHE SPOORWEG MAATSCHAPPIJ.

under the control of an Inspector-General, who, although directly responsible to the Governor-General, received his instructions through the Director of Public Works. In 1888, the Director of Public Works was made responsible for railway affairs, but as the Directors were all recruited from a staff that had never had any experience in railway matters, the change was found to be far from an improvement. It was not until 1906, however, that the weakness of this new arrangement was acknowledged, and the old system of management renewed. Now, a Chief Inspector of Railways is responsible not only for the management of the lines open to traffic, but for those in course of construction and for all work in planning and surveying new tracks. He is held generally responsible for all railway matters in Java. The Chief Inspector is subordinate to the Director of Public Works, but has the right

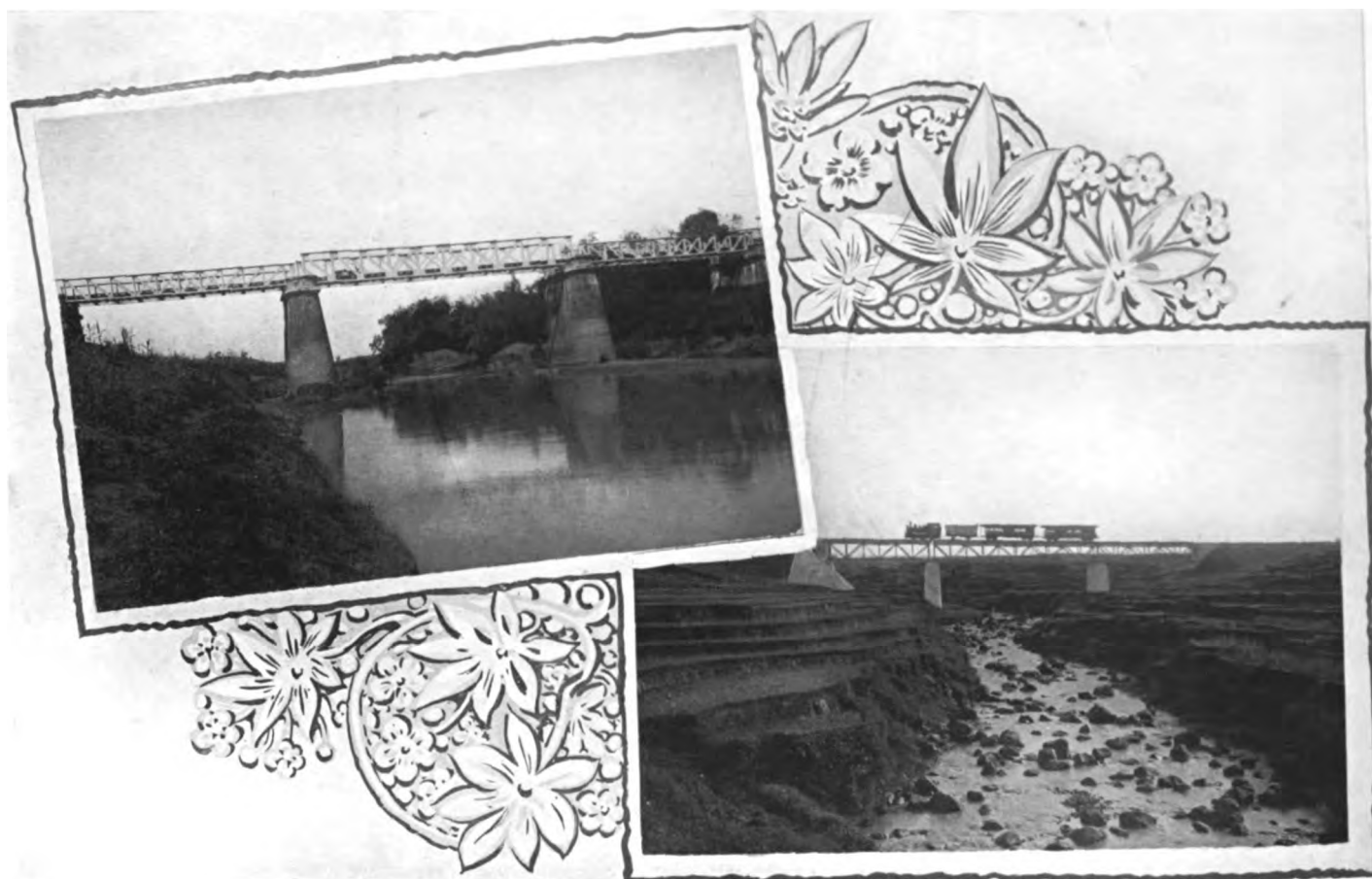
divisional general managers rank immediately below the Chief Inspector, and directly subordinate to them are divisional sub-managers.

So much for the organisation. A few words may now be added concerning the financial results of the railways. The cost of the Eastern system may be placed roughly at G. 68,000,000 (£5,666,000); about G. 11,000,000 being spent on locomotives and rolling stock; G. 14,000,000 on the construction of bridges, culverts, &c.; G. 11,000,000 for stations and other buildings; G. 15,000,000 for making the track, and G. 14,000,000 for the superstructure, the remainder being devoted to miscellaneous items. In 1907 the gross revenue from the Eastern system was G. 9,845,360, an increase of one million guilders compared with 1906, which year in its turn had shown an increase of G. 550,000 over 1905. These large increases are due chiefly to the high price of sugar,

division of the figures it is shown that on the Western circuit the revenue is derived from passengers and freight in almost equal parts. In 1907 working expenses accounted for G. 4,985,029, a slight decrease on 1906. The net revenue gives a percentage of 2·2 on the capital outlay. Such results may not be altogether gratifying from a purely financial point of view, but it must be borne in mind that these railways have opened great stretches of land for cultivation, and while, perhaps, there may be no direct return for the money invested, the State obtains full compensation in the increase of the number and the wealth of the inhabitants of these districts. On the Western system the rolling stock comprises 181 locomotives, 277 carriages, 87 luggage vans, and 2,278 waggons.

	Daily revenue per kilo- metre, Guilderd.	Daily working expenses per kilo- metre Guilderd.
Semarang-Joana Stoomtram		
Mij.	11.26	5.10
Oost Java Stoomtram Mij. ...	13.70	6.31
Stoomtramweg Djocja-Brosot	21.29	9.57
Djocja-Mage-		
lang-Willem I-Parakan ...	18.56	7.84
Stoomtramweg Goendih-		
Sourabaya	12.78	5.50
Semarang-Cheribon Stoom-		
tram Mij.	14.10	5.58
Serajoeedal Stoomtram Mij. ...	13.66	4.76
Kediri " " ...	9.63	3.93
Malang " " ...	8.12	4.35
Pasoeroean " " ...	10.12	5.48

the lines have been constructed to make possible the exploitation of the coal fields in that district. Both mines and railway are owned and controlled by the State. On the East Coast the private system of the Deli Spoorweg Maatschappij has been extended with the growth and increased prosperity of the tobacco industry. The third system—the Achin tramway has been constructed by the Government for military purposes. Details of the private enterprise are given below. The first surveys for the railways on the West Coast were commenced in 1873, under the supervision of Mr. J. L. Chyssaer, whose report upon the subject is still regarded by competent judges as a masterpiece of clear reasoning based on a wide experience in engineering work. He advised the Govern-



**BRIDGE AND RAILWAY LINE BETWEEN
KEDOENG DJATTIE AND WILLEM I. (N.I.S.M.).**

BRIDGE OVER THE PROGO RIVER (N.I.S.M.).

Upon the whole the results of State railway enterprise in Java have been satisfactory. The same may be said in regard to the tramways, whether in the hands of the Government or privately controlled—for while in 1907 some of the smaller systems failed to pay a dividend, other companies obtained excellent profits. The tramways of the Nederlandsch Indische Spoorweg Maatschappij in 1907 declared a dividend of 11·9 per cent.; and others, dividends ranging from 7·5 per cent. to 8·75 per cent. The following figures give some idea of the extent of the traffic on the various companies' lines, but they do not furnish exact comparisons, as the fares differ in different localities:—

Probolinggo Stoomtram Mij....	7.78	5.08
Modjokerto " " ...	7.30	3.97
Babat-Djombang Stoomtram		
Mij.	6.74	3.97
Madoera Stoomtram Mij. ...	5.14	3.89
Line Madoen-Ponorogo with extensions Ponorogo-Balong and Ponorogo-Soemoroto ...	6.70	4.70

SUMATRA.

With the exception of Java and Sumatra, none of the islands in the Dutch East Indian Archipelago can boast of a single mile of rail or tramway. In Sumatra, three quite distinct systems are found. On the West Coast,

ment to construct a line from the coal fields to the sea, and to establish a port. It was not, however, until 1887 that the necessary funds were voted by the Legislative Assembly in Holland. In 1804 the whole line to the sea was opened to traffic. At the end of 1907, 210 kilometres of line were in working order, and since then a few extensions have been made along the coast. The cost of the system, which has been built on the gauge of 1·067 metres, was, until 1907, G. 21,170,993, or G. 100·814 per kilometre. This heavy expenditure was occasioned by the hilly nature of the country traversed. The gradients, indeed, in many cases are such that over a very considerable portion of the line the

"rack" system had to be introduced. Out of the capital account G. 3,992,722 were spent on locomotives and rolling stock; G. 4,525,706 on bridges, culverts, &c.; G. 1,275,050 for stations and other buildings; G. 5,795,110 on the road; and G. 4,352,050 on the super-structure. The direct financial results of the railways, considered apart from the mines, are not satisfactory, the net revenue amounting to only 1 per cent. of the capital outlay. But here again the general influence of the line upon the industry must be taken into consideration. Owing to the existence of the railway the Government are independent of

other countries for their supply of coal, which they can now obtain at reasonable cost from their own mines.

The Achin tramway was established to furnish a quick means of transport for troops and supplies in a district troubled by constant military operations. It has gradually been extended until at the end of 1907 it had a length of 432 kilometres. The gauge is 0.75 metres, and the total cost of construction G. 1,616,066, or G. 28.928 per kilometre. The daily revenue per kilometre was G. 4.07 in 1907. There is no reason to expect a very great increase of traffic in years to

come, and in any case the nature of the line is not suitable to cope with such an increase. The system, however, is soon to be linked up with the line of the Deli Spoorweg Maatschappij.

Further railway extension in Sumatra has been earnestly contemplated, and before long work will doubtless be commenced with a line for connecting Telok Betong with Moeara Enim and Palembang, so that another vast new territory may be opened, and more opportunities provided for the introduction of fresh European capital and enterprise into the Dutch East Indian possessions.

NETHERLANDS INDIA RAILWAYS.

BY E. WELLENSTEIN, Civil Engineer, of the Java State Railways.

THE Netherlands India Railway Company was founded on August 27, 1863, with the object of laying down and working a railway from Semarang through Soerakarta (Solo) to Djocjakarta, with a branch from Tempoeran to Willem I.*

The entire line from Semarang to the principality with the branch,† altogether 205 kilometres in length, was opened to general traffic on May 21, 1873.

Meanwhile, the construction of a railway from Batavia to Buitenzorg was also begun. This line,‡ 55 kilometres in length, which was begun in 1869, was opened to general traffic on January 31, 1873.

The N.I.R.C. had to struggle against great financial difficulties during the construction of the lines.

On November 8, 1863, Mr. J. P. de Bordes, who had been appointed chief engineer, removed to Java, and was at first succeeded only by inspectors.§ The work was carried out under very untoward circumstances. All the labourers were engaged voluntarily, while at that time Government work was carried on exclusively by compulsory labour. The experiment of importing Chinese, in order to compensate for the deficiency of labourers at the commencement of the work of construction, did not turn out a success. Later on, a maximum number of eight to nine thousand native coolies at a time were employed. Gradually many of these coolies, who were almost all agriculturists, became excellent craftsmen and steady workers.

The whole of the work was carried out under the Company's own management. An attempt made at contracting it out to a European contractor proved abortive.

Notwithstanding the large amount of hard work and the many privations suffered in a tropical climate, there were only two deaths among the technical officials during the construction of the railway.

The completion and putting into working

order of the various sections was repeatedly delayed, sometimes because the rolling stock was not ready in time, but more often through lack of funds. Considerable time was lost over the mountain line through searching for a new route.

The successful construction of the railway is to be ascribed in no small degree to the energy and perseverance of the chief engineer, De Bordes, who, with very scanty assistance, and under circumstances of the greatest difficulty, was able to accomplish this great undertaking.

The S.V. line, which was the first railway that was laid down in Java, was fitted up more or less on a European model. The gauge was 1.435 metres. In particular, the principles in force for the construction of State Railways in Holland were followed.

The B.B. line (Batavia-Buitenzorg) was, at the request of the Government, made with a gauge of 1.067 metres.

In the last fifteen years, the S.V. line has been extended by the laying down of steam tramways.

The Djocja-Brossot (D.B.) Line was made with the same gauge as the S.V. line. The gauge of the Djocja-Willem I. Line, with its branch from Setjang to Parakan and Goendih-Sourabaya, is 1.067 metres, the same as the State Railways in Java.

At the end of 1908, 407 kilometres of steam tramway of the N.I.R.C. (Netherlands India Railway Company) were being worked. This includes the tramway from Solo to Bojolali, 28 kilometres in length, which does not belong to the N.I.R.C., but is leased by the Solo Tramway Company.

SEMARANG PRINCIPALITY.

This is a level line. The inclines are slight and the curves have a large radius. Like all the lines of the N.I.R.C. at the present time, it has only a single line of rails. The route followed avoids the mountain district, and, therefore, it has to take a rather circuitous course.* The volcanic group of the Merapi and the Merbaboe are skirted in a wide circle, by which the railway is more sheltered from the disturbing influences to which the slopes of these volcanoes have been exposed, even since the construction of the line.

The magnitude and especially the number

* The distance from Semarang is: To Solo, according to the itinerary, 97.7 kilometres; along the railway, 108.1 kilometres. To Djocja, according to the itinerary, 115.5 kilometres; along the railway, 106 kilometres.

of the triumphs of engineering skill are somewhat remarkable. The total length of the cuttings made for bridges, culverts, and conduits in 1873 was 1,400 metres.

Only one bridge (the bridge over the River Torbaya) has been provided with a movable section, which was afterwards replaced by a permanent bridge. The largest bridges are the following:—An iron bridge in sections over the River Toentang, with a span of 50 metres, and a bridge over the River Serang, consisting of two iron section bridges of 20 metres and one of 28 metres.

It is deserving of special remark that the first-mentioned bridge of 50 metres in length was entirely erected and riveted on land, and afterwards the completed structure fitted as a whole on top of the temporary bridge.

The last-mentioned bridges, together with others of 20 metres and upwards, were entirely fitted up and riveted together in the workshops at Semarang, and conveyed to their destinations by rail on bridge waggons specially imported from Europe for the purpose, placed over the temporary bridge, and then fixed. In this way the temporary bridge, as soon as the permanent one had been run over it, could be taken away, and the danger of the temporary bridge being washed away by a torrent was greatly diminished.

Next to the water difficulty, which at the time of construction, when hardly any reliable data were available, formed one of the most important technical problems, the absence of information as to the nature of the soil, in view of the grade which might be given to the slopes, was also the cause of great difficulties. Some embankments had to be carried to a height of 12 metres, and some trenches had to be dug to a depth of 10 metres.

Another circumstance was the higher level reached by the beds of some of the rivers that rise on the slopes of the Merapi mountains, in consequence of large quantities of lava sand being carried down.

The railway stations are very simple in construction owing to the exigencies of the climate and the nature of the traffic. The most important stations are the following:—

Semarang, to the north of the town, near the sea-shore, with extensive workshops, in which a great part of the rolling stock was made, and branch lines to the harbour canal and the warehouses in the town.

Kedoeng Djatie, junction for the branch to Willem I.

Goendih, since 1884 the junction for the steam tramway to Poerwodadi. This station

* When constructed, this was continued as far as Kedoeng Djatie.

† Will be referred to as "S.V."

‡ Will be referred to as "B.B."

§ The chief engineer, J. P. de Bordes, remained in Java until the beginning of 1870, after 100 kilometres of railway had been thrown open to traffic. The chief management was then transferred to Mr. D. Maarschalk, at that time President of the Government Commission in Java. The following engineers also assisted in the construction of the railway: W. P. Hoffman, F. H. Eussen, H. G. Ders, A. M. E. van Deventer, P. J. Eussen, D. N. Meyners, I. F. Fischer, and the architect, F. Kuntze, the last four specially in the construction of the mountain line. The Batavia-Buitenzorg Line was constructed under the superintendence of the engineer Meyners.

is also the starting point of the steam tramway to Sourabaya.

Solo, since May 24, 1884, also the junction for the Eastern lines of the State Railways.

Djocja, originally the terminus of the S.V. line. From here an additional section has been constructed by the Government, 1·2 kilometres in length, to the station of Djocja Toegoe, the terminus of the Western lines (then the southern lines) of the State Railways, the connection being opened on July 20, 1887.

At the two stations of Solo and Djocja Toegoe, which are junctions for lines of different gauges, viz., 1·435 and 1·067 metres respectively, the requisite arrangements for transfer of freight have been established. By laying a third rail on the Solo-Djocja line, a through narrow gauge connection has been made by means of which the two systems of

connect the fortress Willem I. with the railway system, and when this fortress ceased to be occupied by a large garrison, the principal object of the line disappeared.

By making Willem I. the junction for the Djocja-Willem I. tramway, the traffic has greatly increased through the Kedoe Residency being included in the railway communication.

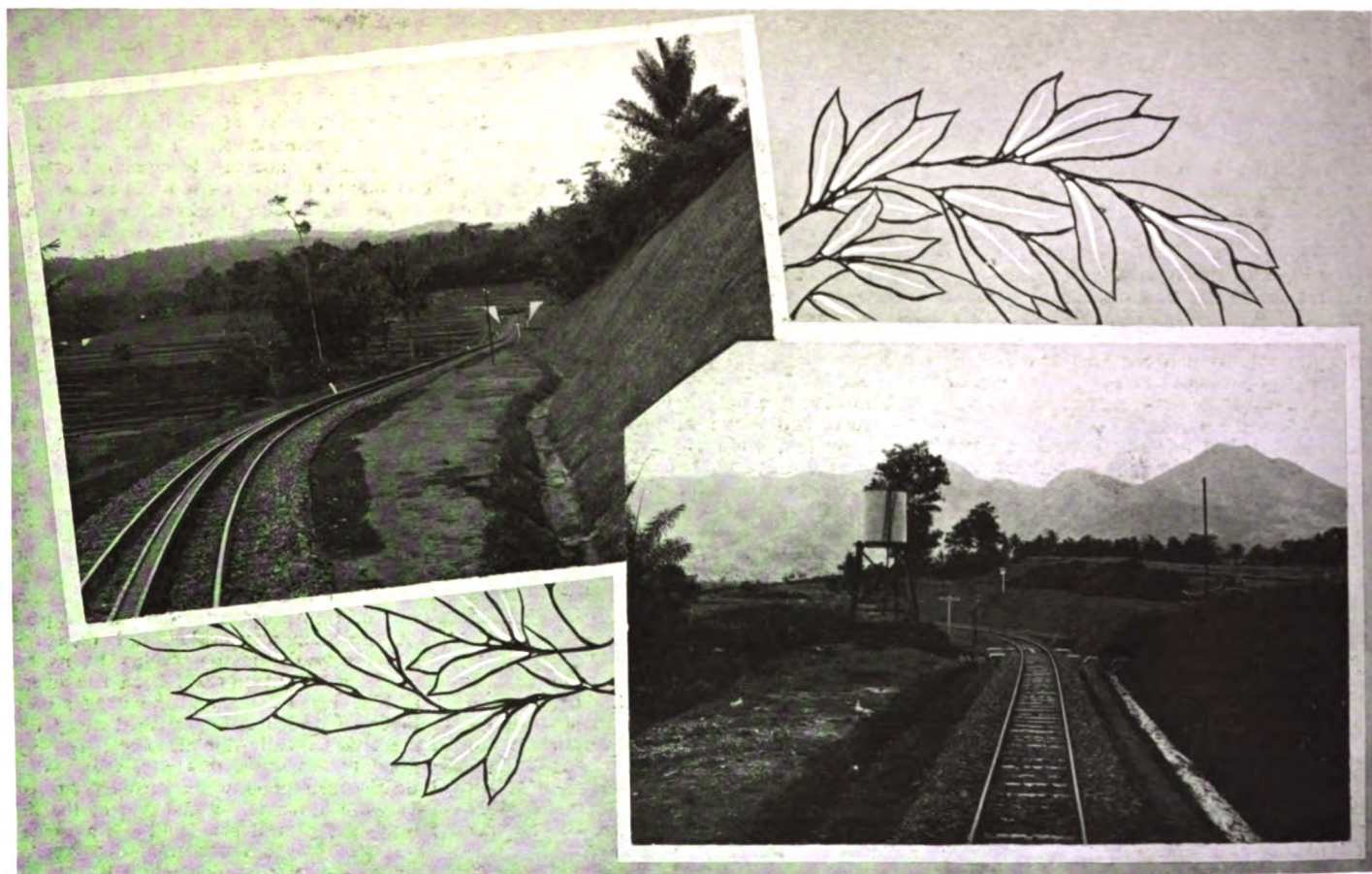
The differences in level that had to be taken into account were very considerable. The starting point at Kedoeng Djattie lies 36 metres above the sea, and the terminus at Willem I. 474 metres. Curves of a smaller radius than those on the S.V. line have been made here, which prevents the transfer of the wide gauge engines and rolling stock from the S.V. line to the mountain line. Bridges and culverts of a total length of

lished, is situated on a branch line of 1·1 kilometres in length.

The branch line from Batavia to Kleine Boom has been disused since the completion of the State Railway from Batavia to Tandjong-Priok.

After crossing the river Tjiliwoeng, in the vicinity of the town of Batavia, the railway is continued on the left bank of the river. The high road to Buitenzorg lies on the right bank, on which side the greater part of the population is settled. Through this circumstance, the local traffic on the railway has always been more or less hampered, and to a less extent the local traffic between Batavia and Meester Cornelis. The ascent increases uniformly towards Buitenzorg, the curves being described with a large radius.

The total length of the bridges, culverts,



STEAM TRAM LINE BETWEEN WILLEM I. AND MAGELANG JAVA (N.I.S.M.).

the State Railways with a gauge of 1·067 metres have been connected since 1899.

The station of Djocja Toegoe is the junction for the Djocja-Brossot and Djocja-Willem I. tramways.

At Semarang, in the neighbourhood of Bodjong, a spacious and stately edifice has been erected to serve as the chief office in Java.

MOUNTAIN LINE.

Great difficulties were experienced in the construction of the branch from Kedoeng Djattie to Willem I., in consequence of the mountainous nature of the ground.

At the requirement of the Government, this mountain line was annexed to the concession for the S.V. line, it having been projected principally for military purposes, viz., to

200 metres have been opened; the greatest span in the bridges is 28 metres.

A very large amount of earth was removed and filled in when making this line; more than half of the 7·6 million cubic metres of the whole line. This saved a great deal of constructional work.

For the artificial structures of the main line with the branch line 148,000 cubic metres of masonry were built up.

BATAVIA-BUITENZORG.

This line, which was constructed in the period from 1869 to 1873, was made with a gauge of 1·067 metres in compliance with the requirement of the Government.

The station at Meester Cornelis, where the workshops and other buildings are estab-

and conduits amounted to 200 metres in 1873. The largest bridge, that over the outer moat of the town at Batavia, has a span of 20 metres.

The station at Weltevreden, opened for use in 1884, is the most important on the whole line. The station for passengers at Buitenzorg was built by the Company, and has connected the line since 1881 with the station of the State Railway.

STEAM TRAMWAY, DJOCJA-SRAN-DAKAN (BROSSOT).*

This steam tramway, which has been open to general traffic since May 21, 1895, and has a gauge of 1·435 metres, may be considered

* Hereafter referred to as "D.B."

principally as an extension of the railway from Semarang to Djocja, for the purpose of forming a direct connection between the sugar factories lying to the south-west of Djocja and the railway system.

The tramway, which ascends a rather steep hill in the vicinity of Djocja, for the most part skirts the high road. The curves described, therefore, have a small radius, but such nevertheless, that the railway goods trucks can be conveyed over the tramway.

Many smaller works on the existing road had to be strengthened or partially renewed.

DJOCJA-WILLEM I.

This tramway, which has been open for general traffic since July 1, 1907, and has a gauge of 1'067 metres, may be regarded as an

and East Java. Nearly the whole of this line is laid on a separate road.

The Soemari-Grissee branch was laid chiefly with the object of including the port of Grissee in the system.

SOLO-BOJOLALI.

This line was worked by horse power until April, 1908, when it was converted into a tramway for mechanical traction and opened for general traffic on May 1, 1908.

The terminus, Bojolali, lies 392 metres above the sea, and is the starting point for the ascent of the Merapi mountains.

ROLLING STOCK.

The rolling stock of the Company's lines comprised the following engines and vehicles

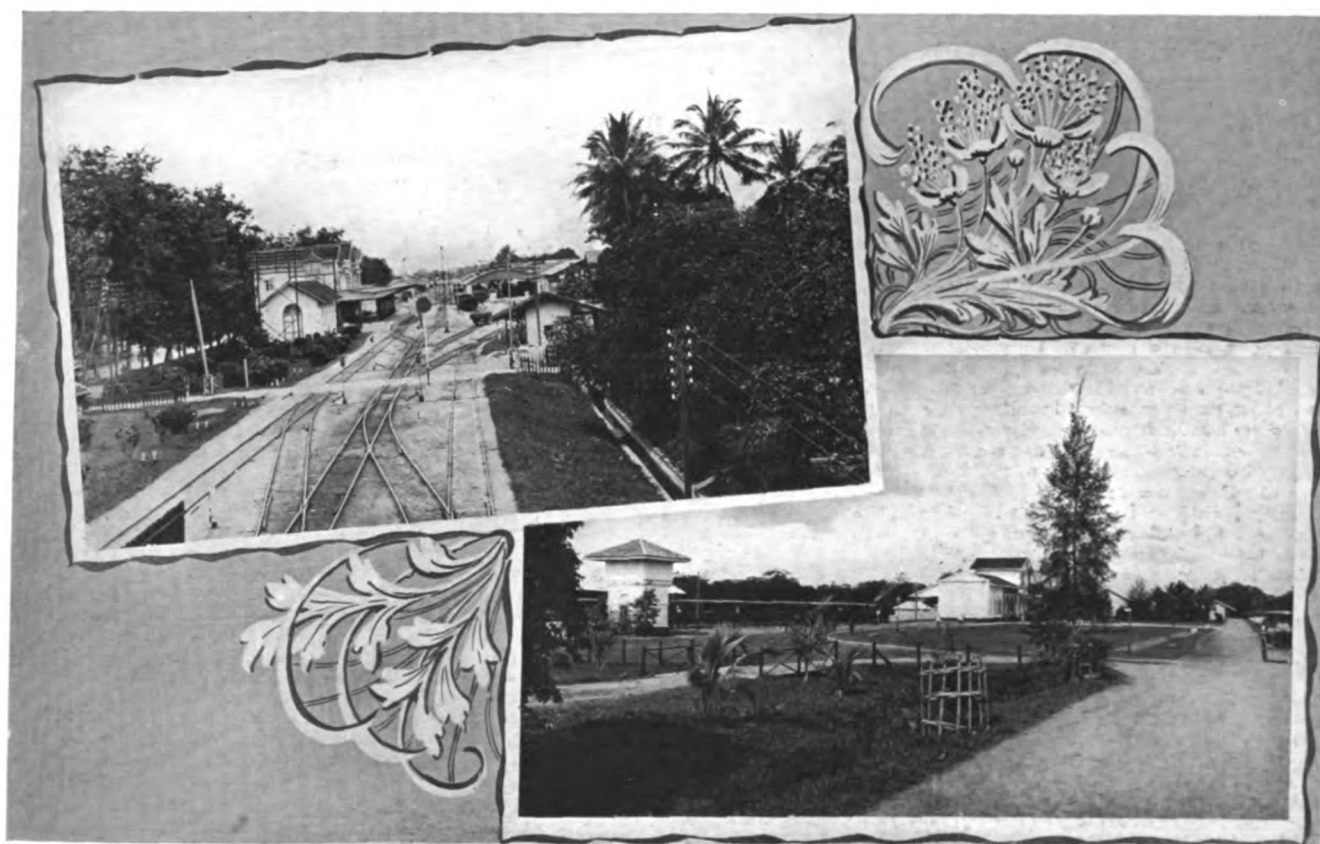
The newest engines on the S.V. line weigh 51,000 kilos, and have a separate tender weighing 26,000 kilos; the newest tender-engines have five axles and a working weight of 59,000 kilos.

In 1900, the steam engines with super-heater on the Schmidt system were brought into use on the tramways, their working weight being 42,000 kilos.

The rolling stock on the S.V. railway is fitted with separate side buffers and screw coupling after the European model for standard gauge.

The rolling stock used exclusively on the D.B. tramway has the usual tram coupling, with slot and pin.

On the B.B. line, and on the D.W., G.S., and S.B. tramways, the centre buffer is used with a loose traction hook, on the model of the State Railways in Java.



MEDAN STATION.

TIMBANG-LANGKAT STATION.

extension of the Semarang-Principality Railway, by means of which the Kedoe Residency was included in the railway system.

Part of this line, with the exception of the cog-wheel section, Magelang-Willem I., is laid alongside of the high road. The highest point is Bedono, lying 711 metres above the sea.

SETJANG-PARAKAN.

This branch of the Djocja-Willem I. Line was constructed chiefly in order to include the rich tract between Setjang and Parakan in the railway system.

GOENDIH-SOURABAYA.

Begun in 1900 and finished in 1903, this line has a gauge of 1'067 metres, and forms a second railway connection between Central

in existence at the end of 1873, 1896, and 1908:

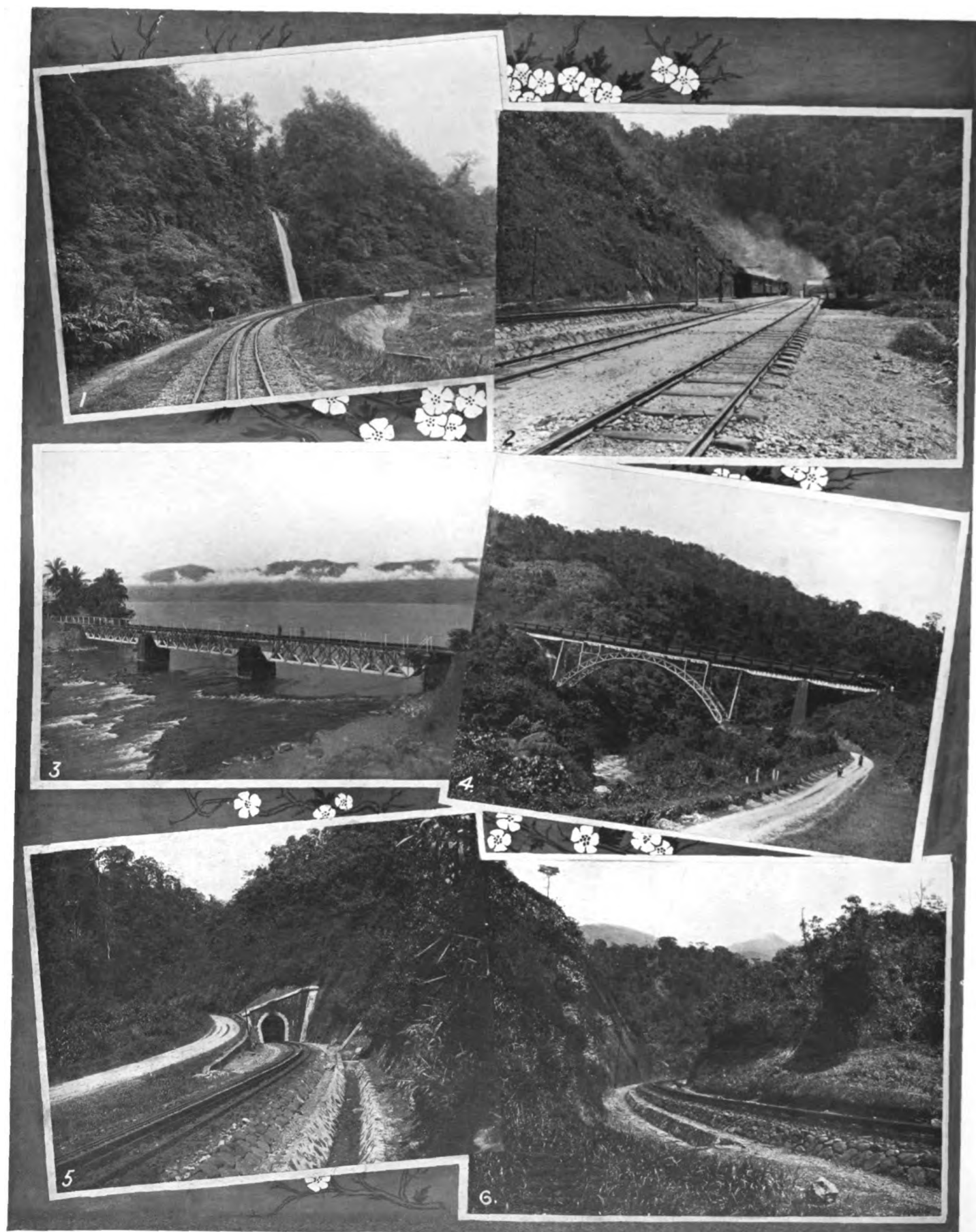
	1873.	1896.	1908.
S.V.	Engines ... 19	28	44
1'435 M.	Carriages ... 42	57	74
	Goods trucks... 164	480	821
B.B.	Engines ... 6	14	12
1'067 M.	Carriages ... 27	49	59
	Trucks ... 85	70	120
D.B.	Engines ... —	6	7
1'435 M.	Carriages ... —	7	7
	Trucks ... —	6	6
D.W.	Engines ... —	—	10
1'067 M.	Carriages ... —	—	27
	Trucks ... —	—	263
G.S.	Engines ... —	—	24
1'067 M.	Carriages ... —	—	30
	Trucks ... —	—	412
S.B.	Engines ... —	—	12
1'067 M.	Carriages ... —	—	13
	Trucks ... —	—	48

The carriages on the S.V. line, upon the whole, are constructed on the same principle as those formerly used in Europe. The 1st and 2nd classes are divided into separate compartments, with side doors.

The D.B. and B.B. carriages, and the D.W., G.S., and S.B., are built with corridors running from one end to the other, with balconies, so that the train officials can perambulate the train.

The speed on the Company's lines is limited to 60 kilometres for passenger trains, and 45 kilometres for mixed trains, and the tramways to 25 kilometres, as there is no necessity for a higher speed. The construction of the permanent way and of the rolling stock of the S.V. railway permit of a considerably higher speed.

The distances travelled and increase in the



VIEWS ON SUMATRA STATE RAILWAY.

1. MANTOER FALLS IN THE ANEI VALLEY.
2. KAMPONG TENGAH STATION.
3. BRIDGE ACROSS THE OMBILIN RIVER.

4. BRIDGE ACROSS THE BATANG ANEI RIVER.
5. TUNNEL BETWEEN KAMPONG TENGAH AND PADANG PANDANG IN THE ANEI VALLEY.
6. CUTTING NEAR PADANG PANDANG.

traffic are seen by comparing the following figures for the years 1873, 1896, and 1908:—

	1873	1896	1908	train-kilometres.
S.V.	370,000	650,000	920,000	" "
B.B.	160,000	300,000	320,000	" "
D.B.	83,000	83,000	83,000	" "
D.W.	376,000	376,000	376,000	" "
G.S.	708,000	708,000	708,000	" "
S.B.	83,000	83,000	83,000	" "

The traffic on the lines amounted to:—

	Tons merchandise.	Passengers.
S.V.	84,000	580,000
B.B.	320,000	1,110,000

	Tons merchandise.	Passengers.
S.V.	738,000	2,044,000
B.B.	13,000	510,000
D.B.	110,000	940,000
D.W.	106,000	1,170,000
G.S.	148,000	450,500
S.B.	116,000	1,730,000
	172,000	1,637,000
	24,000	585,000

The total carried on all lines in 1908 was 1,304,000 tons of merchandise and 7,634,000 passengers.

The receipts of the various lines amounted to:—

	1873	1896	1908	florins.
	1,050,000	3,400,000	7,200,000	" "

At first, only a very small dividend could be allotted to the shareholders. Increased traffic and prudent financial management brought about an improvement, so that during the period from 1873 to 1907 a dividend average of 8½ per cent. was paid in 1907, 11½ per cent.

The capital of the N.I.R.C. amounts to 16 million florins, 4550 million of which is still kept in hand.

The debentures of 2½ per cent. to 4 per cent. amounted to about 27½ million florins at the end of 1907. The various possessions of the Company were valued in the books at fully 50 million florins in 1907.

DELI SPOORWEG MAATSCHAPPIJ.

THE great development in the cultivation of tobacco on the East Coast of Sumatra during the early eighties led to the construction of the Deli Railway. As the industry increased, the lack of good means of transport, both for bringing materials from the coast and for carrying the tobacco from the various estates to the sea, proved a serious handicap to the planters. The suggestion of the railway first came from Mr. J. T. Cremer, who was at that time the manager of the Deli Maatschappij—a corporation which perhaps more than any other has influenced the development of this portion of the Dutch East Indian possessions—and the suggestion was no sooner made than acted upon. The Deli Maatschappij on January 23, 1883, obtained a concession from the Government for the construction of a line from Belawan to Medan, Deli Toewa, and Timbang Langkat (Bindje), and in June of the same year the Deli Railway Company was floated to take this concession over. Five years later, concessions were obtained for branches to Selesch in Upper Langkat and to Perbaengan in Serdang. The first section was opened in June, 1886, and the whole system of 63 miles finished in 1889. For a time, the railway supplied the requirements of the tobacco districts quite adequately, but every year new areas were placed under cultivation, then coffee was grown with success in Serdang, and oil wells opened in Lower Langkat. Consequently, in 1900, the Company again extended their lines in order to embrace these new interests, and within four years the system stretched to Pankalan Brandan, the oil city in the north, and to Tebing Tinggi in the south, with branches from Timbang Langkat to Kwala, from Medan to Arnhemia, and from Loeboe Pakan to Bangoen Poerba, the total length of the line being now 162 miles. A new line from Pankalan-Brandan to the Aroe Bay is projected, and this then might connect with the Atjeh tramway, which it is proposed to extend to this point. Aroe Bay might easily be made a good harbour for ocean-going steamers.

There are altogether fifty-four stations upon the system, of which Belawan, the harbour for the tobacco districts, may be considered as the principal. Medan, the capital of the residency, is, however, the centre of the service, and from here the lines branch off in various directions. The gauge of the

railway is 3 feet 8 inches, and the rails weigh 52 lbs. a yard. There are thirty engines of three classes in use—23, 30, and 40 tons. The rolling stock for the passenger traffic consists of 26 first and second-class carriages, 63 third-class carriages, and 25 luggage vans. The rolling stock for goods comprises 490 waggons and trucks of 10 tons loading capacity, and 250 waggons and trucks of 6 tons loading capacity.

Board of Directors in Amsterdam: J. T. Cremer, President of Board of Commissioners; H. C. van den Honert, Dr. E. B. Kielstra, and H. Muller, Commissioners; C. M. Herckenrath, Managing Director; W. F. C. Momma, Secretary.

Local Directors in Deli.—Board of Visitors: J. van Vollenhoven, President; M. C. Schuurman and J. J. C. de Knokke van



PADANG STATION.

The capital of the Company was originally G. 2,000,000. It has since been increased G. 13,000,000. The profits have been consistently good, and for the last ten years dividends of 10 per cent. have been paid to shareholders and 4 per cent. to bondholders. The directors and chief officers of the Company are:

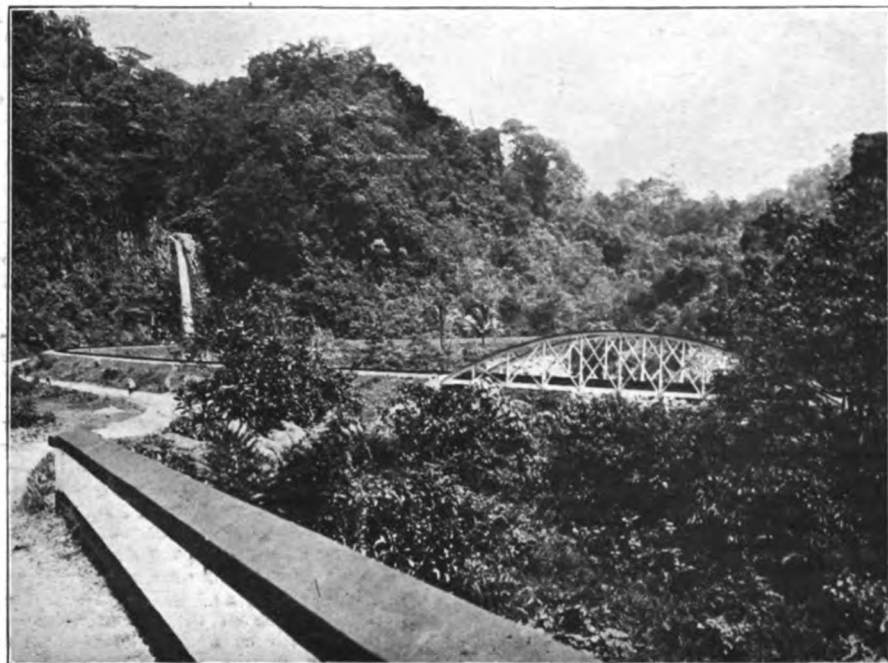
der Meulen, General Manager, W. N. M. Schadee; Chief Auditor, F. J. van Gubk; Superintendent of Ways and Works, L. L. Polis; Superintendent of Locomotive Department, J. van Hartingen; Traffic Manager, J. Negrin; Telephone Inspector, V. Rensburg.

POSTS, TELEGRAPHS, AND TELEPHONES.

POSTAL SERVICE.

THE year in which the postal service was founded in Netherlands India cannot be

ounce, amounted to 2 rupees from Batavia to Semarang, and 3 rupees from Batavia to Sourabaya. The postage had to be paid in cash. Unpaid letters were liable to an



SCENE ON PADANG RAILWAY.

stated for certain. When the Dutch established themselves in the archipelago, letters were carried by merchantmen who visited the colony for trading, so that postal communication could not be regarded as regular. The overland mail was far from being as it should be, and merchants who had important business interests employed their own men to carry their communications, and these sometimes travelled on foot and sometimes on horseback. On special occasions, letters were sent with persons travelling through the country, pedlars, pilgrims, and others.

The first overland postal communication in Java was established in the last years of the eighteenth century—between Batavia and Bantam—but not until Marshal Daendels began to lay out the highway through the whole length of the island could the postal system be considered as, to any extent, regular. Along this highway, in the construction of which so many obstacles had to be overcome and which took more than a year to complete, post stages and taverns were erected for stationing the horses.

Provisory regulations for the postal service came into operation on June 18, 1808. The regular postal communications were extended from Batavia to Bantam, from Batavia to Semarang via Buitenzorg, Preanger, Cheribon, and Pekalongan, and from Semarang along the northern coast to Sourabaya. Post offices were erected at Batavia, Semarang, and Sourabaya under the direction of postmasters. The mail was carried by carriers on horseback, who were always accompanied by a guide, and at night by a torch-bearer also to keep wild animals at a distance. The rate of postage on letters weighing more than half an

additional rate of postage of a quarter of the postage of paid letters. During the period of the British interregnum, new

Following the abrogation of the mail coach service throughout Java in 1812, the British Governor, on June 4, 1813, revoked the passenger service also as being too burdensome to the natives. In 1816, however, the latter service came into operation again. Further developments in the postal communications came, of course, with the completion of the rail and tramways and the establishment of regular steam navigation lines. In 1871 the railway of the "Nederlandsch Indische Spoorweg Maatschappij" between Weltevreden and Batavia, in 1873 the railway of the same company between Weltevreden and Buitenzorg, in 1878 the Government railway between Sourabaya and Pasoeroean, in 1884 the Government railway between Buitenzorg and Bandoeng, and the first section of the railway of the "Deli Spoorweg Maatschappij" between Belawan and Medan, and, in 1894, the Government railway between Emmahaven, Padang and Sawahloento, with a branch line to Padang Pandjang and Fort de Kock, were available for the convenience of the mails. Now post carriers, postillions, post carts, pirogues, trams, railways, automobiles, and steamers are all pressed into the service. So far, however, the automobiles are simply being tried as experiments in Deli and Palembang, while the pirogues are used for the conveyance of the mail on inland rivers only. In 1878, Netherlands Indian postal agencies were established in Singapore and Penang to deal exclusively with the transmission and sorting of correspondence, and in 1892, with a view to improving inland communication, an itinerant mail service was introduced on the railways in Java. Special attention may be drawn to the fact that after a good deal of experimenting, mail catchers, fastened to travelling



POST AND TELEGRAPH OFFICE, WELTEVREDEN.

postal regulations came into operation, but for the most part they accorded with those already in force.

mail vans, came into use in 1907 to deliver and receive post bags in places along the railway where the express trains do not

stop. These catchers have operated satisfactorily up to the present.

The steamers of the Royal Packet Navigation Company (Koninklyke Paketvaart Maatschappij) now run regularly between the ports of Netherlands India under contract with the Netherlands Indian Government for the conveyance of mails. Before 1848 the correspondence in destination for foreign countries was sent by means of the Dutch East Indian Company's sailers. An arrangement was then concluded to regulate the conveyance of correspondence from Netherlands India via Southampton. In 1849 this arrangement was declared to apply principally to the correspondence via Marseilles and afterwards also to that via Trieste. The correspondence via Southampton and via Marseilles was received in Singapore by the Netherlands

Netherlands India became a fortnightly service and afterwards a ten-day service. In 1887, however, the fortnightly service came into operation again. The steamers were then obliged to call at Padang both on the outward and homeward routes, while, instead of Naples, Genoa became the intermediate port of call. Meanwhile, the steamers of the Steam Navigation Company "Rotterdamsche-Lloyd" also established a fortnightly service via Marseilles under contract with the Government, but this company did not enjoy other indemnification than that contemplated in the international postal regulations. From 1887 up to the present, the steamers of the "Nederland" and the "Rotterdamsche-Lloyd" have been running from Europe to Java upon alternate weeks. Up to 1876, all correspondence for Europe had to be sent via Netherlands.

payment of postage in cash was revoked, while in 1881 it was prescribed imperatively that, when paid letters were posted, the payment should be made by means of postage stamps to be affixed to the letters by the sender.

In 1864 10-cent stamps only were in use. A new pattern of stamps was edited in 1869, and at the same time new stamps of 5, 20, and 50 cents were introduced. Other stamps have been issued from time to time, so that the following may now be purchased:—4, 1, 2, 2½, 3, 5, 7½, 10, 12½, 15, 17½, 20, 22½, 25, 30, 50, 100, and 250 cents. Stamped envelopes of 10, 12½, 17½, and 20 cents, and 1-cent and 10-cent stamp booklets, each containing 24 stamps, are also to be obtained. The introduction of due stamps dates from 1874. They are of the following prices:—2½, 5, 10, 15, 20, 30, 40, 50,



POST AND TELEGRAPH OFFICE, SEMARANG.

POST AND TELEGRAPH OFFICE, BANDOENG.

POST AND TELEGRAPH OFFICE, SOURABAYA.

Indian postal administration, and forwarded by means of a monthly steamboat mail service that had been established between Batavia and Singapore. In 1870 the service via Southampton and in 1871 the service via Trieste were discontinued. As a result of the opening of the Suez Canal, a six-weekly service over sea was established in 1871, and an agreement was concluded with the Steam Navigation Company "Nederland" for the inauguration of a monthly mail service between the Netherlands and Netherlands India. On the outward route the steamers called at Naples, and on the homeward route at Padang. For each voyage the Steam Navigation Company was subsidised by the Government to the extent of G. 3,000. Subsequently, the mail service between the Netherlands and

Subsequently, however, a direct exchange of correspondence was arranged with the postal administrations of Austria, China, Egypt, France, Germany, Great Britain, Italy, Japan, Switzerland, Australia, and with most of the foreign colonies in Asia, and French, German, and English mail steamers were used for the conveyance of mail matter. For the convenience of passengers, the Dutch mail steamers are provided with letter boxes, which are cleared at all intermediate ports. According to an enactment of 1823, all chargeable letters (official letters excepted) should be prepaid, but in 1828 it was stipulated that the letters could be posted paid or unpaid, and this system is maintained up to the present time. In 1864 postage stamps came into use, and the old clause requiring from the public the

and 75 cents. Stamps may be purchased at all offices, branch post offices, auxiliary post offices, travelling post offices, and also from the licensed vendor of stamps at Sourabaya and the officers on board the steamers of the Koninklyke Paketvaart Maatschappij, running under contract with the Government. The registration system was introduced in 1823. In addition to the postage, a registration fee, equalling that postage, was charged. No compensation was granted, however, in case of loss of a registered letter. In 1820, with a view of guarding against loss, the letters were entered in a forwarding book at the place of destination, in which the addressee had to sign for receipt. In 1892 the registration fee was reduced to 10 cents in addition to the postage, and, at the same time, in case

of the loss of a registered letter, a compensation up to a limit of G. 25 was granted to the sender. Gradually the traffic became more important, and in 1873 the forwarding-books, which began to lead to much delay in the delivery, fell into disuse. The following statement shows the increase of letters and postcards during the last 35 years :

	No. of letters.	No. of postcards.
1874 ...	2,356,760	217,348
1880 ...	3,477,287	494,321
1890 ...	5,148,159	1,218,160
1900 ...	8,450,681	2,100,020
1907 ...	10,958,812	3,734,718

In connection with this increase of correspondence the rates of postage were gradually reduced. The rate of postage on letters by the direct sea route to the Netherlands for instance, which in 1881 amounted to:—

20 cents for letters not over 15 gr.
40 " " " from 15 50 "
60 " " " " 50 100 "
80 " " " " 100 150 "

&c., was reduced in 1886 to 12½ cents and in 1889 to 10 cents per 15 gr.

Further reductions have been as follows:—On printed matter by the direct sea route to the Netherlands, from 2½ to 2 cents per 50 gr. (1886): on letters to the Netherlands by mail, from 25 to 15 cents per 15 gr. (1888): on letters by mail to the Netherlands and all Union countries, from 15 and 25 cents respectively to 12½ cents per 15 gr. (1907): on printed matter to the Netherlands by mail, from 5 to 3 cents per 50 gr. (1889): on single post cards to the Netherlands and all Union countries, from 7½ to 5 cents and on double post cards, from 15 to 10 cents (1907). In 1902 the rate of postage on printed matter, business papers and samples to the Netherlands and all Union countries was fixed at 2½ cents per 50 gr., subject to a minimum charge of 12½ cents for the business papers and of 5 cents for the samples.

In 1907 and 1908 the postages on postal articles were revised anew and fixed at the rates which are in force up to the present, viz.:

	Inland.	Nether-lands by the direct sea-route.	Nether-lands and all Union countries by mail.	Non-Union countries.
I. LETTERS:	cents.	cents.	cents.	cents.
For the first 20 grammes ...	10	10	12½	37½
For every additional 20 grammes or part of that weight ...	7½	7½	7½	37½
II. POSTCARDS:				
Single ...	5	5	5	12½
Double ...	10	10	10	25
III. BUSINESS PAPERS:				
For every 50 grammes or part of that weight ...	1	2	2½	7½
Subject to a minimum charge of ...	5	10	12½	37½
IV. PRINTED PAPERS:				
Newspapers for every 25 grammes or part of that weight ...	½	—	—	—

	Inland.	Nether-lands by the direct sea-route.	Nether-lands and all Union countries by mail.	Non-Union countries.
	cents.	cents.	cents.	cents.
Other printed papers for every 50 grammes or part of that weight ...	1	2	2½	7½

V. SAMPLES:

For every 50 grammes or part of that weight ...	1	2	2½	7½
Subject to a minimum charge of ...	2½	5	5	15

Unpaid letters and postcards are charged on delivery with double postage. Insufficiently paid letters, postcards, and other articles are charged with double the amount of the deficiency, subject to a minimum charge of 2½ cents.

The inland money-order service was introduced in 1862, when the maximum amount for which an order could be issued, was G. 100. In 1881 this sum was raised to G. 1,000, the maximum in force at the present day. In the beginning the money order business was transacted between the Netherlands and Netherlands East India only. In 1877, the service was extended to Germany, Switzerland, Belgium, Luxemburg, and Great Britain; in 1878 to France, and in 1896 to the United States of America. Subsequently other countries participated, so that the full list of countries and colonies, with which money orders are exchanged are: the Netherlands, Surinam (Dutch Guiana) Curacao, Belgium, France (including Algeria and the French post offices in foreign countries), Italy, and the Italian post offices in foreign countries, Luxemburg, Switzerland, Germany, and the German post offices in foreign countries, Austria, and the Austrian post offices in the Levant, Hungary, Egypt, Sweden, Norway, Great Britain and Ireland, the United States of America, and Japan (including Formosa and the Japanese post offices in Foreign countries). Telegraph money orders are exchanged with the most important of the aforesaid foreign countries.

An acknowledgment of delivery can be obtained for registered letters, post parcels, and special delivery letters by paying a fee of 5 cents on inland articles, and of 10 cents on articles in destination to foreign countries, in addition to the postage and registration fee.

SPECIAL DELIVERY.—Inland postal articles may be delivered by special messenger whenever desired by sender. In addition to the ordinary postage, a fee of 25 cents is levied for special delivery of articles at distances not exceeding 3 kilometres, and of 50 cents at distances from 3 to 6 kilometres. Special fees are fixed for special delivery at greater distances.

The following statement shows the rates and other conditions regarding money orders, postal quittances, and post parcels.

INLAND MONEY ORDERS.—Maximum G. 1,000. When intended for auxiliary post offices, this maximum is reduced to G. 250. The rate of commission is 12½ cents per G. 25, or fraction of G. 25. Money orders can be transmitted by telegraph in the exchanges between principal post offices:

maximum G. 500. In addition to the commission, the tariff for the telegraphic transmission must be paid. Advices of payment, liable to a fee of 5 cents are available.

FOREIGN MONEY ORDERS.—Maximum G. 500; rate of commission 12½ cents per G. 25 or part of G. 25. On money orders in destination to the United States of America, and Great Britain and Ireland, the rate of commission is 15 cents per G. 10 or fraction thereof. Telegraphic money orders can be sent to the most important countries. The rate of commission is then increased with the tariff of telegraphic transmission. Advices of payment are to be had on payment of a fee of 10 cents.

POSTAL QUITTANCES.—Collection of money by post is possible, both in the inland and foreign service. The total amount of the quittances or other commercial papers may not exceed G. 500. The quittances are sent under registered cover to the office of destination, which office remits the amount collected to the sender, after deducting the stipulated charges, viz. 5 cents for each quittance, and the rate of commission for the money order of remittance. Postal quittance may be exchanged with the countries abroad with which Netherlands India transacts money order business.

INLAND POST PARCELS.—Maximum weight 5 kilogrammes. In the reciprocal exchanges between the offices in Java and Madura, and the other islands which are served exclusively by rail, or tramways, the postage is 30 cents on parcels not exceeding 1 kilogramme; 50 cents on parcels exceeding 1 kilogramme, but not exceeding 3 kilogrammes, and 70 cents on parcels exceeding 3 kilogrammes, but not exceeding 5 kilogrammes. Other parcels are subject to a rate of 60 cents if they do not exceed 1 kilogramme, 90 cents if they do exceed 1 kilogramme, but do not exceed 3 kilogrammes, and G. 1.25 if they exceed 3 kilogrammes, but are under 5 kilogrammes. Maximum insurance of value G. 250. Insurance fee 10 cents per G. 150 or part of that amount. For value-payable parcels the maximum is also G. 250. After collection of the value, the amount is remitted by a money order, charges deducted, viz. a fee of 5 cents, and the rate of commission for the money order.

FOREIGN POST PARCELS.—These parcels can be exchanged with almost all foreign countries. Maximum of insurance and value to be collected, G. 250. The insurance fees and rate of postage are fixed separately for each country.

LOCK-BOXES.—Lock-boxes are available at the rate of G. 12 per annum.

TELEGRAPHS.

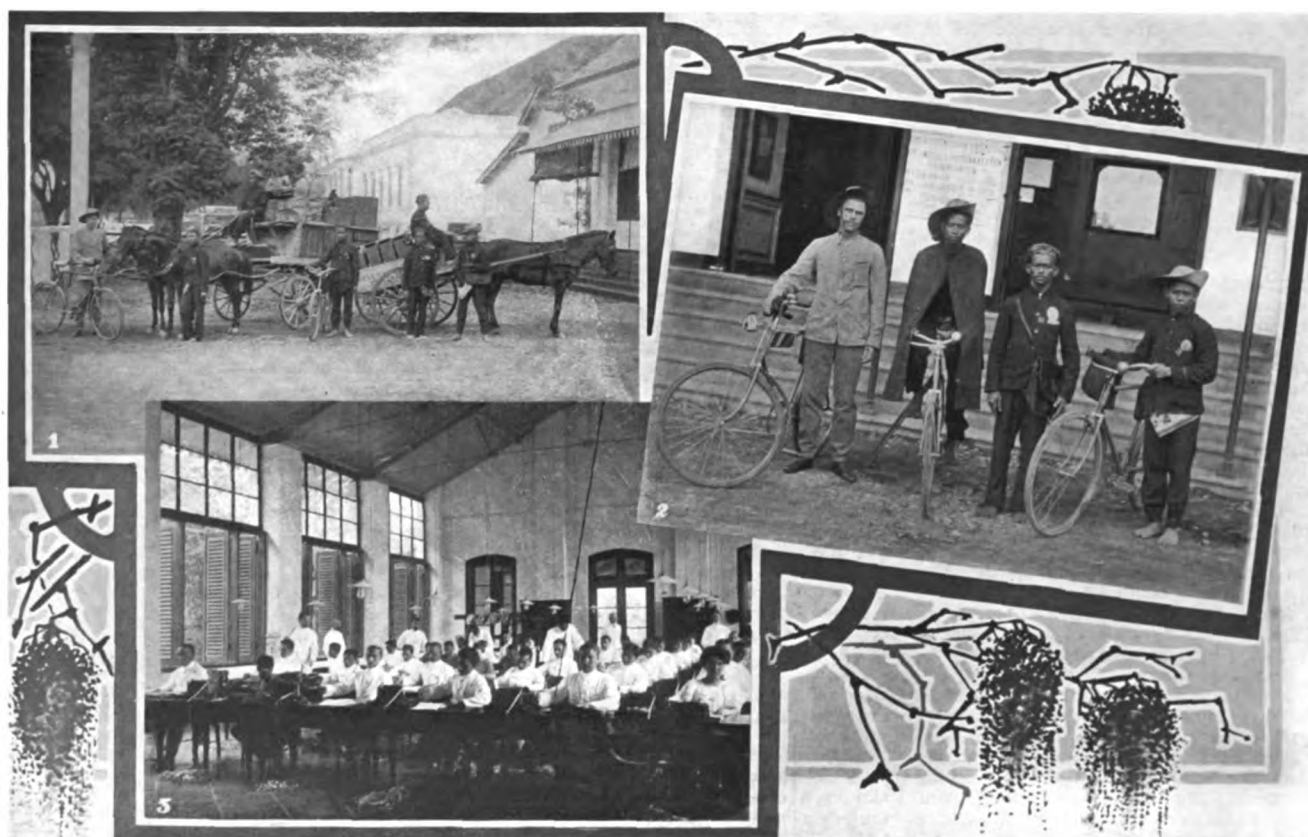
A proposal was submitted in 1855, during the Governorship of Mr. Albertus Jacobus Duymaer van Twist, to the Minister for the Colonies in the Netherlands, for the erection of a telegraph wire between Batavia and Buitenzorg. This proposal was submitted to Parliament, and at the same time attention was drawn to the urgency of establishing telegraphic communication between Batavia and Sourabaya and of erecting branch lines in some trading places in junction with the main wire. The proposal was favourably received, and negotiations were opened for the purchase of all necessary materials. These were sent to Batavia on March 1, 1856, and Mr. Groll was charged with the supervision of the work of construction. It

was ordered that the wire should be erected with all possible despatch, but a bad monsoon attended with constant rains hindered initial arrangements, so that little was done until August 18, 1856. Once the preliminary steps had been taken, however, the works advanced splendidly, and were completed by October 23, 1856, upon which day the first message was sent from Weltevreden to His Excellency the Governor-General at Buitenzorg. The task of continuing the line to Sourabaya was commenced on March 2, 1857. As no marked difficulties were met with, Cheribon was reached on April 14, 1858, Semarang on June 18, and finally Sourabaya on July 25, 1858. The construction of the wire between Buitenzorg and Sourabaya, therefore, covering a distance of about 850 kilometres, was completed in 150 days. Telegraph offices were opened to the public at Weltevreden and

dismantled again and replaced by a new cable. In 1870 the Government of Netherlands India granted permission to the British Australian Telegraph Company, Limited, to lay and work a cable between Singapore, Java, and Australia, the direct result of which concession was the laying of the cable between Batavia and Singapore. The same year telegraphic communication was established between Singapore and Penang, and extended to Madras, so that at last Netherlands India was enabled to participate effectually in the advantages of international telegraphic communication. Cables were opened between Java and Australia in October, 1872, and the following year the concession of the British Australian Telegraph Company, Limited, was transferred to the Eastern Extension, Australasia and China Telegraph Company, Limited. The erection of telegraph wires in the

Padang Sidempoean via Serdang, Assahan and Padang Lawas, was proceeded with and completed in 1887.

The erection of telegraph wires and the laying of cables continued without interruption, and although the scheme devised in 1876 to establish a circular communication Java-Celebes-Borneo-Banka-Billiton-Sumatra-Java failed on account of the high expenditure involved, the greatest part of such communication has nevertheless been brought about gradually. The Java-Bali-Celebes cable was completed in 1888, the Belawan-Oleleh cable in 1892, and the Oleleh-Sabang and Singaradja-Ampanan cables in 1897. The telegraphic system was extended in 1880 from Java to Madura, in 1901 from Sitobondo to Bandjermasin, in 1902 from Bandjermasin to Balikpapan and Samarinda, and in 1903 from Balikpapan to Kwardang and



1. MAIL CART AND LETTER BOX CART.

2. HEAD POSTMAN, TELEGRAM CARRIERS, AND POSTMAN.

3. SCHOOL FOR INSTRUCTION OF TELEGRAPH OPERATORS AND POSTAL OFFICIALS, BATAVIA.

Buitenzorg on May 10, 1858, at Cheribon and Semarang on June 24, 1858, and at Sourabaya on July 29, 1858. Telegraphic communication between Batavia and Singapore was established in 1850 when a cable was laid between Batavia, Muntok, and Singapore, with a branch line from Muntok to Palembang. Within a very short time, however, the communication was interrupted again and again in such a way that it was deemed advisable to dismantle the cable on account of the high expenses attending its repair. A part of the cable was picked up and relaid in 1865 in the Sunda Straits to establish communication between Anjer (Java) and Telokbetong (Sumatra), but it was never satisfactory, and, after being repeatedly repaired, it was

island of Sumatra was commenced in 1866, but the work was carried on under far greater difficulties than those which had been experienced in Java. Wild animals and monkeys were continually climbing the posts and breaking the wires or damaging the insulators, while once it happened that elephants pulled down several masts over a distance of 5 kilometres and dragged the wire with the insulators into the woods. Moreover, there were no facilities for the conveyance of materials, and the engineering staff suffered a great deal from fever. In spite of all obstacles, however, Palembang was reached in 1867, Padang in 1871, and Singkel in 1873, after which the section establishing communication between Deli and

Menado, from Batavia to Billiton and Pontianak, from Billiton to Pangkal Pinang, and from Muntok to Palembang. Wires have now been erected in Djambi and Palembang (Sumatra) and in the islands of Madura, Banka and Lombok, while additional and duplicate lines are continually being laid in all directions. The means of communication with foreign countries have also been improved in such a way that Netherlands India is now in a position to send telegrams abroad via Japan, via Singapore, via the Cocos Islands, via Penang, and via Saigon. Moreover, the use of wireless telegraphy is now under consideration.

The working of the wires was effected in the beginning by means of Morse instruments.

In 1870, the Hughes instruments were tried, and although they proved failures in the first instance further experiments were made at a subsequent date, and in 1907 it was resolved that they should be introduced in the Netherlands Indian telegraph service. Some overland wires, along which large numbers of messages are sent, are worked now by means of Recorder instruments.

At the present time, the telegraph wires in Netherlands India extend over 8,881.04 kilometres, and the telegraph cables over 5,221.27 kilometres, making the total length of line 14,102.31 kilometres. For carrying out their own repair work, independently of the Eastern Extension, Australasia and China Telegraph Company, the Government in 1905 purchased the cables ship *Telegraaf*.

TELEPHONES.

Telephones were introduced into Netherlands India in 1882. They were established, and for many years exclusively controlled,

by private enterprise. Since, however, the Government decided to incorporate telephones with their postal and telegraphic systems, no further concessions have been granted to private companies. The telephonic system may be divided into three sections—local telephones, inter-communal telephones, and telephones for private use.

LOCAL TELEPHONES.—At the end of 1907 the private telephone system was working in thirty-two localities, but the local telephonic systems at Batavia, Weltevreden, Tangerang, Semarang, and Sourabaya have now been taken over by the Government.

INTER-COMMUNAL TELEPHONES.—In addition to the inter-communal telephones between Batavia, Cheribon, Tegal, Pekalongan, Semarang, and Sourabaya, and between Batavia, Buitenzorg, and Soekaboemi, which are worked by a private company, a Government telephone is available between Batavia, Weltevreden, Krawang, Poerwakarta, Ban-

doeng, Tasikmalaja, Djocjakarta, Soerakarta, Madioen, Kertosono, Modjokerto, and Sourabaya.

TELEPHONES FOR PRIVATE USE. Telephone wires for private use may be erected by permission of the Government in private grounds or establishments. In case of the wires being erected partly over Government grounds or ways, a fixed duty per annum is due to the Government.

PERSONAL.

The general direction of the posts, telegraphs, and telephones is in the hands of an inspector-general, who is assisted by a staff of inspectors, engineers, and other subordinate officials.

The educational branch of the department sustains a school for the instruction of telegraph operators and postal officials. At the end of 1907 the staff of the post, telegraph, and telephone services consisted of 1,116 Europeans and 1,689 natives.

ROADS AND BRIDGES.

BY C. THIEME.

THERE appear to be four distinct periods in the history of the roads and bridges, coinciding with and running parallel to the general history of the Netherlands Indies, more especially in Java.

The first of these periods falls during the reign of the powerful sultans, of which the native rulers of Djocjakarta and Soerakarta are the last representatives. A very advanced civilisation was attained, and the remnants of roads in Java, together with the excellent roads the Dutch found in the neighbouring island of Lombok, prove how trade and industry of those times had encouraged or forced the population to road-building.

That period of civilisation and prosperity was followed in those olden times, as is still the case among civilised nations of the present day, by one of conquest and expansion, and the subsequent unavoidable demoralisation and impoverishment. The roads, instead of being kept in order, were gradually reduced to the narrow footpaths from which they most likely took their origin.

When the Europeans first came to India, thus opening the third period, they found this deplorable condition, and on the whole allowed it to continue. A few roads and bridges were in good repair, others were not, as may be seen from the descriptions by Dutch travellers of the seventeenth century, who continually refer to them. Ryckloff Volckertsz van Goens, member of the Indian Council, who in 1656 travelled from Semarang to Mataram, tells how he found a fine, massive bridge across the River Damak, supported by thick Djacti beams, the boards being 10 to 12 inches thick, and about three hundred steps long. "Thousands of elephants and heavy ordnance might safely pass it," says Van Goens. He also mentions three important roads leading from Mataram, north, east, and west.

Superintendent Antonio Hurd, who in 1678 took part in a military expedition against Kediri, also mentions the various roads they followed, pointing out that in places they were full of holes, big stones, and trees.

In 1746 the then Governor-General, Gustave William Baron van Imhoff, made a journey to East Java, and his report mentions roads in such a deplorable state that no human beings seemed ever to have lived near them. Sometimes they were tolerably good, but mud, rains, vegetation, and carelessness combined to make them extremely difficult for traffic.

This second period, that of neglect, overlaps the third to a certain extent. The Dutch East Indian Company took the roads and bridges in hand, but only on behalf of military operations, punitive and otherwise. The roads quite near Batavia were the only ones controlled by the civic authorities; the military built the rest, and kept them in repair, but only if military purposes made this necessary.

A complete lack of system was the result. The main roads ran along the coast and through the low plains, but inland communication was for the greater part non-existent. One of the consequences was that in the seventeenth and eighteenth centuries great and even cruel hardships were inflicted on the sick and suffering, who had to be removed from the hot plains to higher situated and cooler health resorts in the Preanger Regency.

The beginning of the nineteenth century saw the initiation of the fourth period. Governor-General Herman William Daendels, great both as a general and as an administrator, took the matter in hand in April, 1808, a few months after taking office. The preamble to his Order in Council reads as follows:—" . . . Whereas the enormous disadvantage caused to the country and the inhabitants has been noticed, by the lack of serviceable roads that prevents the development of the cultivation of coffee and other produce, imposes enormous expenditure upon the smallest transport, and exposes this important colony to great danger if one part should be attacked by the enemy, and troops from other parts could not be brought to the threatened point. . . ."

Daendels then orders that as soon as the

coffee and rice harvests are over, a road shall be made from Buitenzorg to Carangsambung, 7½ yards wide, whereas a post ("paal") shall be placed at every 9½ miles indicating the distances and also the parts, for the upkeep of which various districts and their inhabitants shall be responsible. He further arranged that 1,100 "boeijangers" (coolies in chained gangs) should be used for the work, and a certain sum of money provided.

This was the beginning. Originally the natives were not allowed to use the splendid Government roads, special cart-roads and footpaths being made for them. Not before 1853 was an Order in Council published, stopping further making of these special roads. It allowed the Government roads to be used by every one and by all vehicles, provided these were in accord with certain regulations. The old-fashioned Javanese carts, with wooden disks as wheels, are forbidden, so are vehicles, the felloes of which no longer rest flat on the road, because the wheels wobble on worn-out axles. Moreover, the width of felloes is prescribed, this width increasing with the load on each wheel.

It has been stated that many thousands of lives were sacrificed in the construction of General Daendels' road; but this allegation appears to rest on doubtful testimony. Once made, however, it is perpetuated by various writers. In Sir Stamford Raffles' "History of Java," the following reference occurs:—

"Few countries can boast of roads, either of a better description, or of a greater extent, than some of those in Java. A high post road, passable for carriages at all seasons of the year, runs from Anjer, on the western side of Bantam, to twenty miles of Banyuwangi, the eastern extremity of the island, being a distance of not less than eight hundred English miles. Along this road, at intervals of less than five miles, are regular post stations and relays of carriage horses. A portion of it towards the west, which proceeded into the interior, and passed over some high and mountainous tracts, was found to occasion great delay and inconvenience to passengers, and to impose an

oppressive duty upon those inhabitants who, residing in the neighbourhood, were obliged to lend the use of their cattle, or the assistance of their personal labour, to aid carriages in ascending the steep; this part of the line has therefore been abandoned, and a new road has recently been constructed along the low lands, from Batavia to Chérifon, by

This route is now so level, that a canal might easily be cut by its side, and carried on nearly through all the maritime districts of the eastward, by which the convenience of inland navigation might be afforded them, for conveying the commodities continually required for the consumption and exportation of the capital. Besides this main road from

required them. But it is not to be concluded that these communications contribute that assistance to agriculture or trade on Java which such roads would afford in Europe; their construction has, on the contrary, in many instances, been destructive to whole districts, and when completed by his own labour, or the sacrifice of the lives of his

TABLE I.

Residencies, not including Private Estates.	Length of Roads in miles kept by the State.			Plate Girder and Lattice Girder Bridges.		Number of Arch Bridges.			Emergency Bridges till 1896.	Small Culverts.	Total number of Large or Small Culverts.	Bridges erected or renewed between 1896-1903.
	1st Class.	2nd Class.	3rd Class.	Number.	Total length of flooring.	Average length of flooring.	Longer than 32.8 ft., or with more than one opening.	From 32.8 ft. to 64.6 ft. wide.				
	Miles.	Miles.	Miles.		Feet.							
Bantam	77.5	171	715	214	6,820	31.8	3	147	736	1,024	2,124	157
Batavia	183	107	59	305	12,050	41.4	10	44	0	675	1,034	62
Preanger Residencies	1,688	484	1,242	1,389	34,300	23.7	8	211	490	7,345	9,443	387
Cheribon	83.5	332.5	331	615	21,200	34.4	30	73	107	2,930	3,845	108
Pekalongan	150	224	482	1,221	33,320	26.9	6	92	350	1,604	3,270	160
Semarang	232	348	443	1,031	31,850	31.2	30	92	270	1,747	3,170	327
Rembang	81	225	379	762	23,200	30.2	4	28	30	1,159	1,983	173
Sourabaya	304	364	327	873	31,550	36.2	33	121	711	1,862	3,600	429
Madura	110	49.6	508	204	6,485	31.5	3	10	386	2,393	2,990	113
Paseroean	125	349	488	621	16,000	25.6	21	182	345	2,075	3,244	163
Besoeki	98	318	274.5	237	8,200	34.4	12	107	1,204	503	2,123	69
Banjoemas	51	123	535	587	17,210	29.3	18	123	55	1,048	1,831	272
Kedu	156	120	862	352	13,405	51.0	57	208	600	5,104	6,420	222
Madjoen	50.5	240	457	417	13,450	32.2	11	53	300	2,600	3,300	144
Kediri	104	412	267	645	18,000	27.9	7	43	60	851	1,612	102
Total	3,493.5	3,867.1	7,429.5	9,473	288,240	30.5	253	1,534	5,854	32,950	50,004	2,888

TABLE II.

Residencies, not including Private Estates.	Length of Roads, in miles, kept by the State.			Plate and Lattice Girder Bridges.			Number of Arch Bridges.		Emergency Bridges till 1896.	Small Culverts.	Total number of large or small Culverts.	Bridges erected or renewed between 1896-1903.
	1st Class.	2nd Class.	3rd Class.	Number.	Total length of flooring.	Average length of flooring.	Longer than 32.8 ft., or with more than one opening.	From 32.8 ft. to 64.6 ft. wide.				
	Miles.	Miles.	Miles.		Feet.	Feet.						
West Coast of Sumatra	95	495	1,570	1,783	47,100	26.40	6	115	729	2,002	4,725	107
Bencoolen	—	42.80	522	61	3,905	64	—	6	335	1,418	1,820	62
Lampung District ...	—	9.30	579	593	13,550	22.95	—	2	14	532	1,141	23
Palembang	—	29.80	1,581	876	38,000	43.50	—	—	241	1,297	2,384	99
East Coast of Sumatra	34.75	—	278.50	39	995	27.70	—	—	64	72	175	115
Achin*	4.35	—	0.62	8	335	41.80	—	—	—	17	25	5
Riau	2.48	1.24	29.80	19	204	10.82	—	—	—	46	65	17
Banka	10.55	407.50	77.50	318	6,270	19.70	—	3	—	1,127	1,448	41
Billiton	—	—	260	302	5,405	13.80	—	—	—	37	429	—
Borneo, W. Div.	—	—	195.50	152	2,600	17.75	—	—	1	16	169	—
Borneo, S. and E. Div.	—	4.35	512.50	925	25,500	27.70	—	1	11	228	1,105	58
Menado	3.70	130.20	200.50	123	6,055	49.25	—	—	226	624	973	31
Celebes	—	196	246	272	8,830	32.40	—	—	18	248	538	33
Amboina	0.62	8.70	282	14	657	47.10	—	13	—	79	166	8
Ternate	2.48	6.80	6.22	4	607	15.10	—	6	1	45	50	2
Timor	—	1.86	1.86	2	115	57.50	—	—	—	36	38	10
Bali and Lombok ...	3.70	36.60	269	31	1,318	41.50	4	7	161	544	747	85
Totals	157.63	6,280.15	6,612	5,612	161,536	28.70	10	153	1,801	8,428	16,004	786
		8,049.78										

* The roads controlled by the Military are not included.

which not only are the former inequalities avoided, but a distance of fifty miles is saved.*

* Daendels states in his own report that originally he did not know the country well enough to avoid the initial mistake. He even suggests that his advisers wrongly misinformed him, hoping that the enormous difficulties presenting themselves might induce him to give up the entire plan.

one extreme to the other, there is also a high military road, equally well constructed, which crosses the island from north to south, leading to the two native capitals of Surakarta and Yûgva-Kerta, and consequently to within a few miles of the South Sea. Cross roads have also been formed wherever the convenience or advantages of Europeans

neighbours, the peasant was debarred from their use, and not permitted to drive his cattle along them.

N. Engelhard, the fiercest of all of Daendels' critics, states in his work, "Overzicht van den staat der N. I. bezittingen onder Daendels" (1816), that five hundred natives from Galoe in Cheribon perished

while making the part of the road across the high Megamendoeng, the part afterwards abandoned for the present track to which Raffles also refers.

For metalling, gravel is generally used, dug up by preference from the rivers, although the Java gravel is too soft, and quickly ground to a powdery dust. Near the coast, shells are used, with a layer of brick or coral underneath. Lately, broken stone has been used, crushed by steam rollers; and also asphalt, to lessen the wear and tear by heavy traffic and to prevent dust.

There are three kinds of roads and bridges: those the Government, those the natives, and those the sugar and other manufacturers build and keep in repair. The natives do compulsory labour. If manufacturers use the roads for very heavy traffic, however, they are obliged to repair them at their own cost. And roads and bridges in the great cities and important inland places are also exempt from compulsory labour, the Government paying either for the labour, or the collecting of the material, or both.

Table I., on page 205, gives the roads and bridges at present in existence in Java, with the exception of those on private estates.

The first-class roads mentioned there are

the main roads and bridges, and those in the principal cities, having a width of 5.5 yards between the parapets. Second-class roads, having a width of 4 yards, are the more important inland ones, and third-class roads are the least important, having a width of only 3 yards. Roughly speaking, it may be held that the first-class roads are kept in repair by the Government. There are, however, besides these three classes, *desah* roads, for which each village is responsible.

In some parts this keeping in repair is more difficult than in others, and experience has taught that in the Preanger Regencies new roads should not be left to the care of the natives, even under the supervision of Dutch officials, but that technical experts are wanted there.

The new roads in the regencies, more than anywhere else, are apt to subside immediately after the metalling is finished and the road thrown open for public use.

Many roads run through thinly populated districts, and it would be undesirable to insist there upon compulsory labour. The burden would press too heavily upon the few inhabitants, and they might evade the trouble by simply migrating to other parts. This would not encourage traders and shopkeepers

to settle there, and prejudice the general use of such roads.

The Dutch Government publish every year a full and detailed account, not only of the work done, but also of the money spent, both on repairs and improvement, and on building new roads and bridges. It would serve no practical purpose to insert here abstracts from these reports, or give figures for one or more years. It is sufficient to say that the system initiated by Daendels in the beginning of last century is steadily developed in no grudging way. And this not only in Java, but also on the so-called outlying possessions.

It is also sufficient to give a table (No. II., page 205) of the roads and bridges on the other islands of the archipelago.

In Sumatra the work was started much later than in Java, and even in 1875 complaints were heard that the often unnavigable rivers were about the only ways available for inland transport. The high and steep mountains of Sumatra make the building of roads extremely difficult; in various instances it is absolutely impossible to use vehicles, and pack-horses must be resorted to.

In Borneo, Celebes, and other islands, the same conditions and difficulties are found and struggled against.



A FRAGMENT FROM CHANDI BU'BAH, FORE-TEMPLE OF CHANDI-SERU.



NATIVES OF JAVA IN THEIR MOUNTAIN HOME NEAR TOSARI.

POPULATION: ORIGIN, LANGUAGES, MANNERS, AND CUSTOMS.

INTRODUCTION.



DEARLY all the groups of numerous islands south of the Philippines belong to the Dutch, forming an estate of nearly twelve times the size of England. The inhabitants, the language, the flora and fauna, and the geological volcanic formations all point to one conclusion: that they are the fragments of a continent once uniting Asia and Australia in the secondary epoch. Probably the Australian part broke up much earlier than the Asiatic, as the sea between Asia, Sumatra, Java, and Borneo, and between Australia, New Guinea, and other islands to the north-east is not nearly as deep as the channel dividing these two groups and the sea to the east of the Philippines, Celebes and Sumbawa—a difference of from 50 to 1,000 fathoms. Hence also a decided differ-

ence between the populations of the two parts; those on the west being Malays, the others Papuans.

The Malay race as a whole undoubtedly resembles very closely the East Asian population from Siam to Manchuria. This becomes evident when Chinese traders in the Sunda Isles adopt the local costume of those parts. They can then hardly be distinguished from Malays, whereas many a native of Java has a physiognomy closely resembling that of the Chinese.

There is, on the other hand, a close resemblance between the black and the brown Polynesian races. A New Zealander and an Otahaitian have merely a somewhat lighter colour and less frizzy hair (Papuans may be derived from Puwah-Puwah, Malay for woolly) than a Timorese. Both are tall, energetic, demonstrative, joyous, and laughter-

loving. The Malays possess none of these characteristics, rather the opposite. There surely is a Malay element in the Papuan language, but this may be explained by the intermixing of both races. If Papuan words had Malay roots it would be a different matter, but that is not the case. The Papuans have taken over the "finished article," quite modern Malay or Javanese words, hardly distinguished by peculiarities of pronunciation.

The difference between Malays and Papuans is so very great that Huxley maintained that the latter are more closely allied to the negroes of Africa than to any other race, and the racial distinction between negro and Malay is too obvious to call for further argument.

In the following pages the various races of natives in the Dutch East Indies are dealt with under separate headings.

ACHINESE, BATAKS, MENANGKABAUERS, DAYAKS, BUGINESE, PAPUANS, AND PEOPLE OF BALI.

BY C. M. PLEYTE, Lecturer on Ethnology, Geography, and History, Batavia.

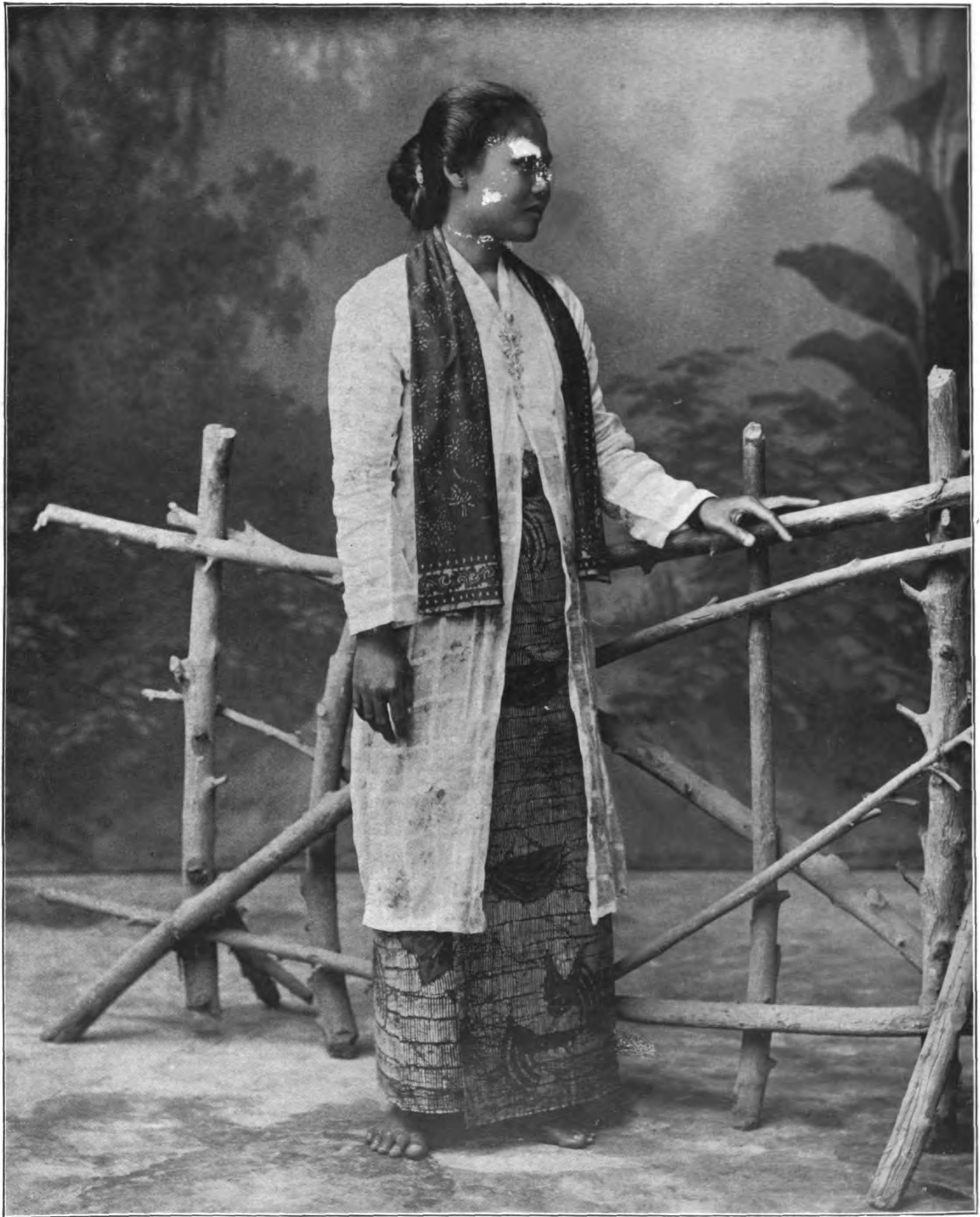
PEOPLE OF ATJEH (ACHIN.)

THERE are no historical data from which the origin of the Atje people may be inferred with any probability.

As Atje was chiefly a trading State, and

traders from various regions of Southern Asia at all times permanently established themselves in Atje and the coast states, the original type was gradually modified; and there are now encountered among the population Hindustani, Kling and Malay

elements, and even, though in a lesser degree, Egyptian, Arabic, and Javanese elements. The princely house which has reigned with a few interruptions since 1723 is said to be of Buginese origin. A factor of importance in the development of the



JAVANESE GIRL.

Atjeh people are the slaves, originating chiefly from Nias.

With regard to the earlier history of Atjeh, there are but very scarce details available, from which it appears, however, that there was never any room in Atjeh for regular normal development of State administration or jurisprudence. The heart of the kingdom, which we are accustomed to call Groot Atjeh, was then under the administration of a Sultan, who was in actual fact not much more than a port king, who always strove for supremacy over the other parts of the kingdom, but whose influence was often of no great importance there.

The Sultan of Atjeh possessed little territory of his own. This territory consisted of the Kraton, Pakan Atjeh, the kampongs of Merdowati, Djawa, Pandei and Kedah, the moekims of Longbattah, Pager Ajer, Lamsajoen, and the III. Moekims, and also of Janah Wakeuch (neutral territory) here and there reserved on the coast. His influence on territorial chiefs was slight. The coast states mostly paid over the port rights to the Sultan. He exclusively was entitled to impose certain heavy penalties, and to coin money. The Sultan was assisted in the government by four Mantri Hari Hari. He had his own chief judge and his Shahbander or harbour master.

The population of Groot Atjeh, or Atjeh proper, as this region was in former times mostly called, not administered by the Sultan direct, is divided into three *sagis*, each consisting of a certain number of *moekims*, from which fact indeed they get their names, the Sagi of the XXII. Moekims, of the XXVI. Moekims, and the XXV. Moekims. It is not clear how these *sagis* originated, but probably they are federations of moekims brought together by proximity, similarity of habits and dialect, and, above all, by like interests. At the head of these *sagis* is a panglima *sagi*, to which each federation elects the most influential or powerful Oeleebalang, who possesses authority, however, only in matters of common public interest, but does not interfere in the internal politics of each Oeleebalang territory. At the disposal of the Oeleebalangs for the maintenance of their authority are their blood relatives, their followers (who receive housing, food and clothing for themselves and their families from the Oeleebalang), and those who have become his owing to debt and are therefore bondsmen; the Panglima Prang, who has distinguished himself as a warrior, and when he is required to do battle for his Oeleebalang, receives the loan of weapons from the latter; and as judges the Kadis, whose authority is limited, nevertheless, to some sections of family law.

The smallest territorial unit is the kampong, consisting of farms partly arranged as gardens with one or more houses, separated from each other and from the kampong paths by hedges, the whole in turn surrounded by a hedge having one or more exits. Just outside the kampong, a small building is found, which serves for the night shelter of youths and the men temporarily staying in the kampong.

The Atjeh people, disregarding small differences in local character, must be divided into uplanders and lowlanders, these latter being, as regards their customs and language, under the predominant influence of the population of the chief city. Even in dress the uplanders and lowlanders differ from each other. Both wear the peculiar Atjeh breeches, and regard the large thong placed crosswise as a characteristic of Mahomedan dress, just

like the kilt. The lowlanders wear ordinary "baadjies" with long narrow sleeves; the uplanders, an article of apparel which is sometimes worn over the shoulders, sometimes laid on the head, and sometimes bound round the waist.

When the Atjeh man goes out, he wears a sharp pointed dagger on one side; furthermore, when travelling, he carries the Atjeh sword, whilst the *klewang*, carried without a sheath, serves more as an ornamental weapon for the followers of chiefs, or is taken in campaigns. The uplanders also take with them when travelling two throwing spears and one ordinary spear, with or without a gun.

The women's dress also shows some difference in uplanders and lowlanders. Both wear a kilt over the Atjeh breeches, but in the lowland tracks this kilt is worn down to the feet;

Theft, highway robbery, and murder are the order of the day with the uplanders. They are also deemed braver than the lowlanders; the latter, however, who come more into contact with foreigners, are worse in ignorant fanaticism, arrogance, and contempt for all foreigners.

The houses, built on poles above the ground, are always directed with their gables west and east, so that the outer door and stairway are north or south. Round about the house there is a farm, where a well is indispensable, from which the women draw the water for household use. A gutter conveys the used water into an earthenware pipe, through which excrement is also conducted to a dung-hill, which is always exceedingly wet, and into which the waste water from the back part of the house and kitchen also runs. The space beneath the house serves for storage.



1. MALAY WOMAN.

2. BATAK WOMAN.

3. BATAK MAN.

in the uplands it is only worn somewhat lower by women than by men. Generally the women wear the baadjie, but the sleeves are narrower in the upland regions. There is also a difference in the fashion of dressing the hair.

The food of the Atjeh people usually consists of rice thoroughly cooked in water, which is partaken of twice a day. They also eat dried cod-fish, imported from the Maldives, and boiled sea or river fish. At religious or ritual meals, rice boiled yellow is partaken of, and a kind of pancake with some other ingredients.

The use of sirih, &c., is general. Many use opium in excess, above all on the East and West Coast in the colonies of pepper planters, where all the Atjeh vices attain their climax,

and likewise as night shelter for dogs, sheep, fowls, ducks, &c. Cattle and butaloes are in separate stables; the few horses which the Atjeh people possess are tethered to trees.

Atjeh girls are as a rule married very young, and handed over to their husbands in their eighth or tenth year. The men do not marry before the sixteenth year. Usually an intermediary is entrusted with the suit, which emanates from the intended husband, but not before negotiations have taken place between the respective parents. The bride receives an engagement present, which she may keep if, through no fault of hers, the marriage does not take place. The father of the bride, if he breaks his word without

valid reason, must pay a heavy fine. The bride after marriage does not follow the husband to his kampong, but a room is placed at her disposal in her mother's house, where her husband visits her. The maintenance of the young family is defrayed by the parents of the wife for a time, usually proportionate to the amount of the dowry. During this time, the husband is only bound to make occasional presents to his wife, which may be regarded as compensation for the cost of her maintenance whilst at home, which may be for ten or fifteen days per month. As a rule, the Atjeh native takes only one wife. On the birth of a child the mother is, as soon as possible after delivery, laid on a bench for forty-four days above an oven, in which a fire is constantly maintained. The offering for the child commanded by Islam is generally practised, and must preferably take place on the seventh day after birth. This also applies to the first contact of the child with the ground, which is solemnly celebrated. The circumcision, including that of girls, takes place without any solemnity, whilst filing of the teeth is but little practised, and is in any case far from general. Marriage is agnatic and at the same time exogamous in a certain sense. The man alone continues the race. Children belong to the father. The children of the slave are the property of his master. The children of an Atjeh man and a female slave are free. Marriage, therefore, possesses a purely patriarchal form, with patriarchal elements.

The Atjeh people is divided into "kawom" (from the Arabic Oasem= race, people), as the older patriarchal sub-division, older than the territorial sub-division, which is a later and higher step in the international division of Atjeh as a state. Even now, when the administration and jurisprudence of the country have for ages been based on the territorial division, the kawom, the genealogical units, are far from having lost all importance. The uplands are still the land of the kawom. Here are the four races or families, to one of which each free born uplander counts himself as belonging. A kawom comprises all those descending in the male line from the same ancestor. The kawom chief is appointed by the Oeleebalang. Between these races or families, in the event of insult, blood vengeance or the price of blood is required. One of the four kawoms occupies a lower rank than the others. These exercise power in the territorial sub-division, may not intermarry with the first named, and jointly possess a hereditary Panglima, who may take no part in the territorial administration.

Among the religious practices, the Kandoeri must be mentioned in the first place. This is a meal given for a ritual purpose, and to which, in accordance with the Mahomedan law, the poor, preferably the pious poor, must be invited. Usually, a Kandoeri is accompanied by the reading of the Koran, dikir, and prayer. Whatever is forbidden by the law must be avoided, otherwise the Kandoeri loses its religious character. The occasions for a Kandoeri are very varied. The chief is the Kandoeri Moeloed, which must be celebrated on the twelfth of the month of Mulud as a commemorative feast of the birth of Mahomed. The Kandoeri is obligatory for each kampong. Deaths likewise give occasions for Kandoeri, the third, seventh, or fortieth day after the death. Kandoeris are also held in order to propitiate good fortune, for instance, when beginning a new undertaking, when starting a journey, when a child first goes to school; also to avert misfortune, for instance, during prevalence

of an epidemic, after a disturbing dream, or after a threat.

In Groot Atjeh, where the population is chiefly engaged in the cultivation of rice (both on sawahs and on ladangs), Penang tobacco and pepper, and likewise sugar cane, djagoeng, and greens, and is rich in cattle, the war has for the most part destroyed the pepper and silk-worm cultivation, and the cultivation of rice is not now carried on sufficiently; moreover, the native cattle have largely been exterminated, and imported cattle die very speedily. On the west coast, rice and pepper are grown, pinang and wood products gathered, and fishing carried on, and, just as on the other coasts, a good deal of trade is done in products of the interior. The Atjeh natives also practise the goldsmith's art, silk weaving, the making of pottery and of weapons.

BATAKS.

This is the name attached to a people dwelling in the residency of Japanoei, a part of the residency of the East Coast of Sumatra.



WOMEN OF SOUTHERN SUMATRA.

and the tracts bounding this residency and lying outside our territory. Among the Bataks, three chief groups or main tribes are distinguished, namely, the Jobas, Mandailingers, and Dairiers, which distinction is chiefly based on the difference of the dialects spoken by each of these principal groups. In addition to the three groups named, there are other groups of peoples among the Bataks, namely, the Timor-Bataks, who live north-east of the Joba Lake, and south-east of these the Raja-Bataks, who are regarded as a sub-division of the Timor-Bataks. In a part of the inner tracts to the west of the Joba Lake live the Pakpak-Bataks, and on the high ground to the north of the lake, the Karo-Bataks. The lower lands at the foot of the skirting hills, separating the higher land from the residency of the East Coast of Sumatra, are the home of the Doesoen-Bataks, who originated from the Karo lands and speak the Karo dialect.

Chiefly by contact with Hindu-Javanese colonists, the Bataks obtained of old a certain degree of civilisation. We desire in the following lines to depict in main outline the

principal characteristics of the Bataks as regards their customs, mode of life, and religion.

In the independent tracts, the villages are largely surrounded by closely set palisades, earthen walls, and often a moat behind them and a fence of thorny bamboo. In the tracts which have long been under our direct administration, these entrenchments no longer exist or are in a state of decay. Within the village, there is not a single tree, and, for the most part, not a single green spot to be seen. In each village there is usually in the centre a sort of common house. It is a structure built on poles, without walls, which is used for conferences of the village dwellers; unmarried youths and non-residents passing through the village receive night shelter here. The building is used as a meeting place for old and young during the day, when the time is passed in chatter, play, or some light work.

In the Karo lands, in or near most of the villages of any extent, houses of the dead are seen, in which the village chief keeps the bones, or at least the skulls, of his ancestors. We shall speak of this later. In the vicinity of the villages, there are also bathing places, and sometimes buffalo ox kraals, which are the property of natives, and are guarded at night by unmarried youths.

The dwellings of the Bataks are mostly made of wood, and stand on poles from 2 to 8 feet high. Opposite the ladder giving access to the house is a door; here and there in the Joba lands, however, there is, instead of a door, an opening in the floor, which is shut by a trap-door at night, when the ladder has been hauled up. In the space beneath the house, pigs, goats, cattle, or horses are penned. The roof, covered with idjoek, is longer above than below, so that it has its ends projecting beyond the house in sharp points in the shape of horns. Owing to this and to the low and slanting walls, Batak dwellings have a peculiar character of their own. They are often adorned with Indian ox heads imitated in idjoek. The interior of the house consists only of a single room; the living places of the families dwelling in it are at night separated from each other by mats. When there are windows, these consist only of small openings in the wall. Usually the houses are dark inside, and there is no adequate egress for smoke. One or more cooking places, according to the number of families, are always in the house. Generally the house gives shelter to from four to twelve families, and sometimes more; only the richest chiefs possess a house for themselves.

The everyday dress is a coarse fabric about the lower part of the body, a thick and very strong cloth fabric, which is fastened by its end or sometimes by a band to the hips, or a sarong. The upper part of the body is covered with a second cloth. The colour of these articles of apparel is generally dark blue or almost black, or sometimes red. Girls have the lower limb covering raised high in order to cover the bosom, or make use of a special cloth for that purpose, but married women, as soon as they have become mothers, usually leave the upper part of their bodies exposed. Both men and women have kerchiefs or head coverings.

The filing and blackening of teeth is a general custom; many adorn them with thin pieces of gold or mother of pearl; use is also made, at least in the corner teeth, of a charm which affords protection against poison.

The staple article of food is everywhere rice; in addition to or failing this, maize and earth fruits are chiefly used. Meat, particularly that of the Indian ox, cows, or goats is generally more eaten here than among the

other peoples of the Dutch Indies. The palm wine from the Areng palm is the favourite beverage.

The chief means of subsistence is agriculture, particularly the cultivation of rice, which is carried on both on artificially irrigated soil or sawahs depending on the rain alone, or again on dry fields. Rice culture on artificially irrigated sawahs is particularly developed in Silinloeng and in the tracts along the Joba Lake. On the high-lying land in the country of the Karos, the bottoms of ravines alone afford the possibility of planting sawahs. Fruit trees are but little planted in the Batak countries. The cultivation of kapas and indigo is in process of great diminution in most parts, owing to the introduction of European manufactures, or is gradually being completely ruined. Horse breeding is carried on above all in a part of the Joba countries, and at present to a greater extent in Padanglawas. The Indian ox and other horned cattle are also very numerous there. The horses are mostly exported, sometimes eaten, but seldom or never used for riding or traction. The great grass areas in Padanglawas and on the plateau of Joba afford, of course, the best facility for cattle raising on a large scale. The possession of a large number of pigs constitutes the chief riches of many heathen Bataks. Hunting and fishing are of little importance, chiefly owing to the general scarcity of game and fish. The chief forest products exported from Padanglawas are bees-wax, rattans, and some sorts of gum resin. Camphor and benzoin are chiefly exported from the west coast, where Baroes, in the environs of which, the camphor tree thrives in particular abundance, has of old enjoyed the reputation of the chief point of export of this product.

The trade is limited to the markets which are held at certain places in regular intervals, mostly of four days. Almost all products of agriculture, cattle farming, and industry, here and there likewise articles imported from Europe, some forest products, and slaves, are there offered for sale. Usually it is barter, and the means of exchange are of many kinds, with a good deal of local difference; large quantities of rice or maize, horses, cattle and goats are, in some places at any rate, paid for with Spanish mats. The chief items of exports are horses, camphor, and benzoin. Imported are chiefly salt, cotton goods, iron, Spanish mats, petroleum, copper wire, &c., latterly opium also. There is a great lack of roads, above all in independent tracts, where they are restricted to narrow footpaths; nevertheless, intercourse between the inhabitants of the plateau and those of the lower countries in the residency of the East Coast of Sumatra is much more frequent than would be anticipated.

The community is divided into tribes or marga. As among the Atjeh people, the patriarchal form of relationship exists, accompanied by exogamy; the marga is with them an association of persons tracing their origin from the same ancestor exclusively in the male line. The inhabitants of a village are all made up: (1) Of those belonging to the dominating marga, which was the first to establish itself in the place; they all have practically equal rights and obligations, and with the Jobas at least, may all lay claim to the title of Rajah. A certain supremacy, however, is accorded to one of them, going to him as the first-born or as the founder of the village, or as the descendant of these in the direct male line or by succession. (2) Of persons belonging to a different marga than the dominant one; between these two margas the usual *jus connubii* (right of inter-

marriage) exists. (3) Of members of other margas settled in the village.

The princes or chiefs, with their descendants, form, in some regions at least, a sort of nobility. Children, however, born to them of women of non-princely descent stand between the nobility proper and the middle class, and form a sort of semi-nobility, having the general title of Anggi-ni-radja. In addition to the middle class, which includes all freed natives, the Batak community also includes a number of slaves, with the

sold as slaves. In ordinary life, no characteristic difference can be observed between the three first-named classes. The residences of the chiefs, however, are somewhat larger and better built than those of the other classes of the people. Generally, slaves are well treated, and appear not dissatisfied with their lot.

With regard to ground ownership, the ground belongs to the marga, whose ancestors first took possession of it or gained it later by conquest. If a member of this marga



TYPES OF MANTAVIE WOMEN (SUMATRA).

exception, of course, of those tracts in which direct Dutch administration makes its influence felt. Men are, or become, slaves, by birth, being captured in war, owing to debts or non-payment of fines pronounced against them. Men may likewise, if their debt has not been paid after a certain number of years, be declared slaves by the people's court. In the independent countries, it also happens sometimes, that travellers are seized and

clears a piece of the waste ground within the territory of the tribe, it becomes his personal property, and passes by inheritance to his descendants or next-of-kin. Dwellers in the territory, who are not members of the dominant marga, can acquire the use of the waste soil which they clear only for a certain time, the length of which depends on the circumstances. In Angkola, this custom does not prevail, but the man who

clears wild or waste ground is always the owner of it, as long as he and his descendants dwell in that territory. Their land is only forfeited to the chief when they emigrate from that region. With regard to villages situate in the middle of sawahs, there are special customs.

It has already been stated that exogamy exists among the Bataks, in conjunction with patriarchal institutions and customs as regards relatives. The wife, on marriage, passes from her tribe to that of her husband, and takes up her abode with him. In many cases the couple are then given a special room in the house of the man's parents. Preferably, the men marry daughters of an uncle on the mother's side. The children issuing from the marriage belong to the tribe of their father. He pays a dowry for her, the amount of which varies according to the position or means of the parties; it requires to be paid, properly speaking, before the marriage, but nevertheless it is frequently

heavy field work, for instance, the breaking up of the soil with a sort of pick-axe, is always done by the man alone. For the rest, the wife is usually well treated; generally she is satisfied with her lot, and is faithful to her husband. She exercises a deal of influence even in political matters sometimes. As she possesses nothing, it is impossible to inherit anything from her at her death. At the death of the husband, only his sons, grandsons in the male line, and brothers and their descendants in the male line can be his heirs. Nevertheless, if there are still unmarried sons, the family is not broken up, but as soon as they are married the property is divided. The eldest and youngest sons receive a larger share than the others, often double. The eldest son generally follows his father in his position or dignity; if this is not possible, the youngest son is often chosen as the successor, passing over the other sons. If there are unmarried daughters, they remain with their brothers, who receive the purchase

particularly when the abductor is sure of the love of the girl, but is doubtful of or cannot obtain the consent of her parents to the marriage. In some parts, it often occurs among the least well-to-do, in order to avoid the great expense attending a marriage according to the Adat. The abductor must always pay the dowry, and by this the marriage is regarded as lawfully completed. Child marriages are not rare, and the fathers promise their children to each other for the time when they reach marriageable age; sometimes the boy is still small, but the girl already full grown.

The marriage is contracted without any religious solemnities; there is merely a festive repast, and certain symbolic practices are general. Polygamy is, generally speaking, rare. It is found only among the chiefs and persons of high standing who are rich enough to afford it.

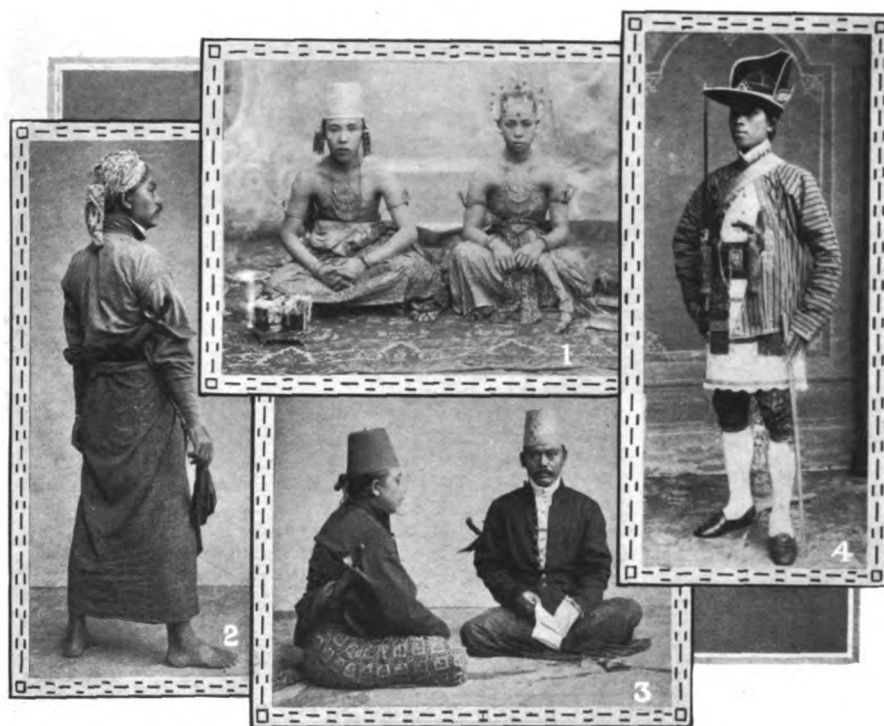
A few days after birth a child is carried, in the company of the parents and other members of the family, to a neighbouring brook or river, and there is washed or bathed. After this, the father gives it a name; if it is a boy, he keeps this name until he comes of age. This cleansing and naming are commemorated by eating and drinking, but no religious solemnities find place either here or later at the circumcision and filing of the teeth, which have likewise been practised by the heathen from time immemorial.

It is customary for poor people to be buried soon after their death, wrapped simply in a piece of linen or a mat. Bodies of well-to-do persons or important chiefs are washed, one of their slaves standing beneath the corpse so that he receives on his body the water dripping through the floor of the dwelling; as a reward for this service he is manumitted. The body is always put into a coffin, where it remains until buried or burnt, which may often take a long time, because a good many arrangements must be made, and necessities obtained for celebrating the feast of the dead. Cremation is practised, particularly among the Karo-Bataks.

The amusements of the Bataks are chiefly double dances, fencing with a kind of sword, knives, or daggers, music, and putting riddles (the solution of which must sometimes be given in the form of a story).

It sometimes happens when a person has contracted gambling debts and fails to pay that one of his fellow villagers, no matter who, coming into the vicinity of the kampong where the creditor resides, is seized by the latter and held prisoner until the debt is paid, or until he is released by armed force.

After a few abortive attempts by English and American missionaries to spread Christianity, the gospel has for some years past been preached with much success by the missionaries of the Rheinische Missionsgesellschaft, chiefly in Silindoeng, Sipiro, on the banks of the Joba Lake, and even so far as the Samosir Peninsula. Of later years, the Dutch Missionary Society has also made a beginning by establishing a mission among the Karo-Bataks. As regards the religion of the still heathen Bataks, it is animism, the religion of the heathens of the East Indian Archipelago, in which, owing to the influence of earlier Hindu Javanese colonists, certain Hindu elements are unmistakable, and in which in later times Mahomedan names and ideas have been incorporated. Three orders of gods are distinguished, namely, the upper gods, those who live in the heaven; the Banoewa, the middle class, whose dwelling place is the middle, as the Bataks call it.



TYPES OF JAVANESE PEOPLE.

1. BRIDE AND BRIDEGROOM.
2. MAN WITH HIS KRIS.
3. SULTAN OF DJOCAKARTA'S FUNCTIONARY.
4. OFFICER, SULTAN OF DJOCAKARTA'S BODYGUARD.

not paid at once in its entirety, part of it being left till later, which is regarded as a token of the friendly intelligence existing between the two families. From the various names given to this dowry, which, properly speaking, are tantamount in meaning to "purchase price," and from the terms which the husband uses in speaking of his wife, it is clear that marriage is here regarded as a purchase. If the wife remains childless for a long time, the husband can send her back to her parents, who are then bound to repay the purchase price paid for her, or supply another girl in her stead. The position of the wife, moreover, is an extremely subservient one; she possesses nothing, and all that comes in her hands during the existence of the marriage is the property of her husband. She has a great deal of work to do, both at home and in the field. Only

price for them on their marriage. The brothers or nephews of the husband have the right to dispose of the widow; one of them may marry her, or may also give her in marriage to another member of the marga.

In addition to the above-mentioned marriage, there occurs likewise another kind of marriage, in which no purchase price is paid, the wife remaining with her family, and the husband coming to live with the latter and working for his father-in-law. The children even then belong to his marga. This marriage, however, as soon as the husband is in a position to pay the purchase price, or is held acquitted by the work he has carried out, is converted into the first-mentioned form of marriage (mangoli). The wife then leaves the home of her parents, and follows her husband to his dwelling place. Abduction takes place now and then,

i.e., our earth; and the gods or higher beings that dwell in the lower world. The general name for god is *Debatā*, also pronounced *Dibata*, derived from the Sanscrit *dewatā*, which is also applied by extension to the upper gods. The chief among them are the *Batara Goeroe*. The two other upper gods are *Sori Pada* and *Mangala Boelan*; among the *Karo-Bataks* these are unknown.

The higher beings who make this world their dwelling place, where they inhabit mountains, trees, villages, &c., are for the most part the spirits of the dead, called by the general name *Begoe*. Most of them protect those who are not neglectful in providing for their needs by making offerings, chiefly food offerings, and they punish by illnesses or other misfortunes those who fall short in this respect, or who offend them in any way. For these reasons they are more venerated than any other spirits.

MENANGKABAUERS.

This is the name given to the population which chiefly inhabits the *Padang* uplands and the adjoining tracts. Above all, the older among them in the higher lands suffer largely from *goitre*.

The costume of the men is exceedingly diverse. When the *Menangkabau* man is at home or is carrying out work in the field he usually wears a kerchief over the head and short breeches or a piece of cloth, which only reaches just below the knees and is fastened about the limbs. Otherwise, the costume of the man consists chiefly of a kerchief, a jacket, a sarong, a belt, and breeches. The kerchief consists of a square piece of variegated or black cotton cloth; the former is stiffened with rice starch. The priests dress in the Arabic fashion.

The costume of women consists chiefly of a *kain*, a *badjoe*, and a *salendang*. The *kain*, which is an article for everyday wear, is an oblong-shaped piece of white, black, or dark blue cotton, wrapped round the body, fastened on the hips, and hanging down to the feet in such a way that the left leg is exposed almost up to the thigh during walking. Older women sometimes wear the *badjoe* above the *kain*, but generally the upper part of the body remains exposed.

The ornaments which the *Menangkabau* woman wears are chiefly hair pendants, hair ornaments, armlets, and finger rings.

As regards children, these run naked or nearly naked up to the age of five or six. They are only decked out with ornaments in the hair, round the neck, the waist, the arms, and the ankles. Before the boy receives breeches or a sarong, he is given a jacket; the first article of apparel of the girl is the *kain*. The kerchief of older boys is folded in such a way that the crown of the head remains uncovered.

Among weapons are found the European shooting guns, which have entirely displaced the older matchlocks without tore or back sight, and a great variety of bright arms, such as *krises*, lances, swords, daggers, &c. These are generally of native manufacture, and of very efficient workmanship. The handle is not infrequently tastefully carved and set with precious stones, the sheath made of rare wood and mounted with gold; to those which are heirlooms, supernatural powers are often ascribed.

The dwellings are usually built on poles, the number of which in depth denotes the importance of the house. The roof usually terminates in two horn-shaped points, and in some there is also a similar small independent roof in the centre. Large houses have

a kind of upper rooms on one or both sides, from one to six in number. The rear part is composed of small rooms separated from each other by planks, bamboo, or cotton, and serving as sleeping rooms for married couples and marriageable girls; the front part forms, as it were, the common family room, in which the children and the old unmarried people often sleep. At the side of the door is found the fireplace, a frame made of narrow planks and filled with earth, on which are the stone triangles for the pot or pan. Above this fireplace, and frequently

and ducks, and likewise the storage place for agricultural implements, or the place where some occupations are carried out. Generally, the building is made of wood or bamboo, and for roofing, various sorts of leaf are used, the fibrous envelope of the *anau* palm, or *ilalang*, a sort of grass. The household furniture, which is in keeping with the dwelling, and is made of native materials, is extremely simple and practical. That part which is of a more luxurious character is usually vari-coloured and ornamented with pieces of glass, sheet copper, or gold wire.



JAVANESE GIRL FROM DJOCJAKARTA.

above the rooms, a loft is found, used for keeping cooking and other necessary articles of daily use. The door is reached by a ladder or stairway, above which there is sometimes a sloping roof fitted. The windows, which are oblong rectangular openings, are not glazed, but are shut by small shutters. The enclosed space beneath the floor of the dwelling is the sheltering place for Indian oxen, cows, horses, fowls,

On the farms adjoining the dwellings sheds are found for storing up the rice. They are of various shapes and have different names; the *rangkiangs*, provided with fine carved work and painted in light colours, are the most decorative. Of the village, the most prominent buildings are a house in which lies the big drum made of the hollowed-out stem of a tree, by means of which the people are warned and called

together on special occasions; the balai, or council building, where the chiefs sit in judgment and assemble to consider the interests of the community; the mosque, the soerau, which serves both as a school and as a house of prayer; and the lapau, the Menangkabau shop, restaurant, and inn. The market often consists of a great plain shaded by waringin or koebang trees, and is visited once a week by people coming from far and wide to sell and to buy. In the neighbourhood of the village, the burial places are found; they are also often found on the farmyards attached to the dwellings themselves.

In order to denote the members of one and the same family in the most limited sense of the term, the words *samandai*, *sadapua*, *saparioea*, or *sakawah* are used, of which the first means the children of one and the same mother; and the remainder are connected with the use in common of hearth and pot, or the drinking of coffee

and nieces. Some families together form a group or tribe known under the name of *soekoe*, of which the *panghoeloe poetjoea* is the principal chief. Of all the family chiefs, the principal is he who is said to belong to the first family which settled in that place, or to have been the founder of the *soekoe*. All the *soekoes*, found together as a separate whole, and whose life in common follows both the old and the new institutions, are described by the term *nagari*. They call their mutual relationship one of "adat," being a firm bond of union under an inviolable oath. The rulers of a *nagari* are the joined *panghoeloes* of the *soekoes*, who deal with all the matters pertaining to the entire *nagari* in a council, and settle differences which cannot be dealt with separately by the chiefs of the *soekoes*.

Opinions differ with regard to the original number of these *soekoes* and their increase; it is mostly regarded, however, as probable that there were four at the beginning.

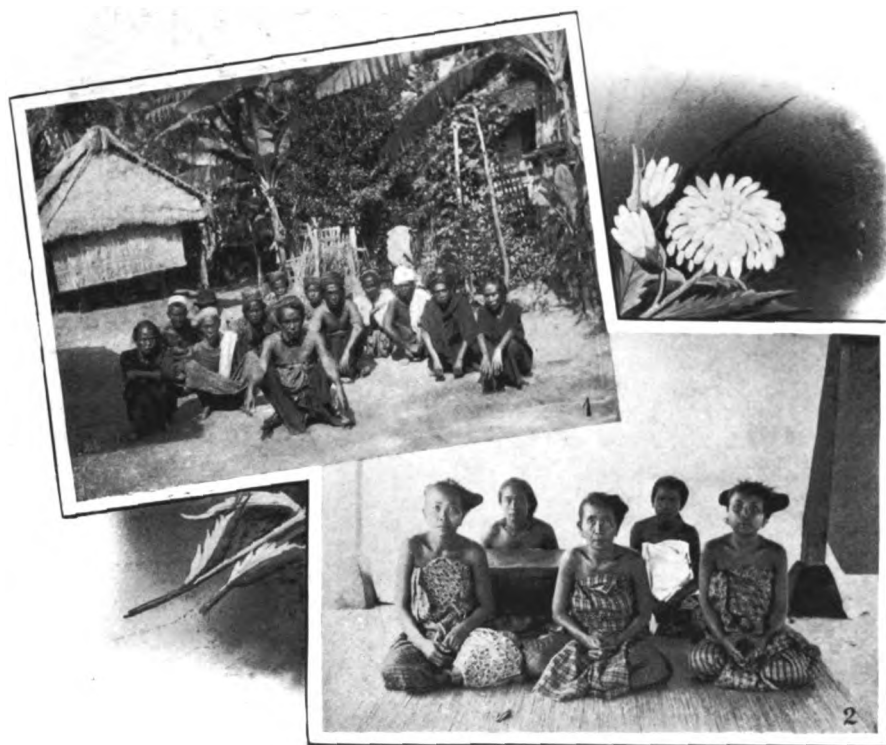
for the payment of fines for offences or transgressions, a part of the common property is often used.

The feeling of solidarity is highly developed among the Menangkabauers; according to the *adat tanggoengan*, the family, the *soekoe*, and the *nagari* are answerable for their members, and the latter can only be released from responsibility by solemnly repudiating the person concerned.

The legal conceptions of these people are recorded in the *oendang-oendang*, writings which, in addition to the traditions of the old history of the people, contain a mass of laws, prescriptions, and rules of life. In general, the object of the legal enactments is to reconcile the parties with each other, for which reason the punishment for offences and wrongs may be satisfied by fines and compensation to the injured party, this being mostly accompanied by a reconciliation feast. With regard to civil law, the *oendang-oendang* contains a few provisions which chiefly indicate what is to be done with the property on dissolution of the marriage. The Menangkabau Penal Code proper is the *oendang-oendang*, which contains the rules for the production of proof.

The customs still found at the principal periods and occurrences in the cycle of family life, such as pregnancy, birth, naming, betrothal, marriage, &c., are in brief as follows:—When the wife is pregnant, she is required among other matters to be careful of a number of things which are prohibited to her. In the fifth or sixth month, a feast is held in the house of the prospective mother, when the female guests bring a small present for the child expected. At the beginning of labour, all boxes and window shutters are opened, and if there is a Koran in the house it is removed. The men must then leave the house, but children and marriageable girls remain. The first washing of the child, which takes place immediately after birth, is limited to the ears and nose. On this occasion a priest, if the child is a boy, whispers into its ear the call to prayer without, and if it is a girl, the invitation to prayer in the mosque. When the child is first brought to the river, there are some accompanying formalities; it is placed in a hammock and is fumigated whilst the *doa* is pronounced in order to guard it against misfortunes and fits. Circumcision is practised both on girls and boys. For the latter, it is carried out as a rule between the ages of ten and twelve, sometimes still later. The boys are brought in the company of the parents, uncles, female relatives, and players to the river or spring, where a priest carries out the operation; girls are circumcised within the house by a female doctor. Just as common as circumcision is artificial deformation of the teeth, which, as we have already said above, is practised in various forms, and is usually followed by blackening and ornamenting with gold. It is done by means of a saw, a chisel, a file, a hammer, and a piece of stone.

Betrothal, in the sense in which we understand it, is not known to the Menangkabauer; boys and girls seldom or never have occasion to make acquaintance with each other, as the latter, as soon as they have left their years of childhood behind them, and even frequently before that time, are carefully kept at home, and do not go out save in charge of an elder. Among the Menangkabau people, betrothal is more of an agreement between the mutual parents to marry their children to each other, both parties being required to comply with certain formalities, failing which the bond may be broken. As a rule, the condition of betrothal lasts only a few days, but sometimes it is of much longer duration. This is



1. NATIVES OF LOMBOK.

2. BALINESE WOMEN, LOMBOK.

together. The word *saparioea* in other parts, among others in Old Agam, also denotes other members of the family who have the use of the, as yet, undivided inheritance. Several of these families live together in one house, each having its own fireplace. They are all descendants in the female line of one ancestor, and are for that reason described by a term meaning born of one mother. Therefore, in a Menangkabau dwelling, there are often found children with their mothers, and also uncles, aunts, grandmothers, grand-uncles, and grand-aunts, all on the mother's side. Husband and wife form no family on marriage, but each of them continues to belong to his and her family respectively. Owing to large increase in number or other circumstances, a family may extend and occupy several dwellings.

The chief of each family is the uncle on the mother's side, who, in rights and obligations, is really the father of his nephews

The right of inheritance is in keeping with the arrangement of house and family; only those connected in the female line are mutually heirs. From the mother, the children inherit, and, failing them, her brothers, sisters, her sisters' children, &c. Even if there are children, the possession remains in the hands of the chief of the family. From the husband, his brothers and sisters inherit, and failing these his sisters' children. The property is divided into inherited and acquired property, of which latter that which has been acquired by husband and wife in common forms part. The owner may dispose of his own acquired property, and with the approval of the chief of the family may make gifts therefrom. The inherited property may likewise, with the previous knowledge of other heirs, be assigned in part by the chief of the family to a member, which takes place frequently whenever any one needs capital to carry on business or to go on a journey, &c.;

particularly the fact in the case of child betrothals, which also exist among the Menangkabau people, and to which various circumstances give rise. A marriage is contracted in two ways, *i.e.*, the demand is made either by the family of the husband or that of the wife. This latter case, customary above all among the better-to-do, is known under the name of *mandjapoei*—*fetching, inviting, calling*. No attention is given to mutual liking of the children when arranging a marriage. The will of the father is of little or no importance. It is the authority of the mother and that of her brothers and sisters which here plays the chief part.

On the day of the marriage, the bridegroom is brought to the dwelling of the bride, where the *Inam* or priest of the mosque, or the *wali*, *i.e.*, the man who has the right to bind the girl in wedlock, the father, the grandfather on the paternal side, &c., proceed to carry it out. A marriage is called illicit which is concluded between a husband and wife of the same *soekoe*. When it takes place, now and again satisfaction must be given by a feast to the dwellers, and by the payment of a certain sum of money to the *adat*.

Divorce often takes place at the requirement of both husband and wife, or the husband alone, and after having previously notified the family heads of the wife. It takes place in the presence of the family, and of two witnesses, each of whom receives 50 cents from the husband. The husband can immediately choose another wife, but the wife does not possess this liberty.

As soon as a death takes place, the members of the family carry out the first washing of the body, after which it is dressed in its finest clothes, and placed in a sitting posture on a bed of honour. Whilst the grave is being dug, the women sing dirges in front of the dead, and one or more priests are invited to tear the shroud out of a piece of white cotton, incense being burnt the while. Before wrapping the dead in the shroud,

grave, the bier is set down in such a way that the face of the dead is turned to the west; one of the priests says a prayer, and the body is carefully lowered into the grave with its feet to the south and its face towards Mecca.

home manufacture. For the making of lace-work and embroidery, the gilt and ungilt silver is mostly obtained from China. In the making of gold and silver ornaments, the gold and silversmiths of *Kotó-Gadang*, in *Agam*, excel above all. Iron and copper-



NATIVES OF BORNEO.



A DAYAK IN WAR DRESS.

these sheets are held over the body during the washing, after which the body is wrapped up and tied to a plank or ladder, and, covered by a few pretty *kains*, is conveyed outwards through the door. On arriving at the open

The Menangkabau population lives chiefly by agriculture, trade, cattle raising, industry, hunting, and fishing. The uncultivated soil belongs to a family, a *soekoe*, or the *nagari*, and the latter have the right to give permission for collecting all products obtained from the soil. In the forests, the wood is collected for Government building work and for their own use, and honey, wax, rattan, resin, and other products. Agriculture supplies, among other things, rice from irrigated and unirrigated soil, pepper, indigo, nutmeg, tamarinds, coffee, *djati*, tobacco, gambier, coconut, pinang, betel nut, *kapok*, Indian corn, millet, potatoes, and greens.

Above all, a brisk trade is carried on among the population; large or wholesale dealers, however, are very few, and only found in the chief towns; the trade is exclusively small, and is in the hands of Menangkabau people who go from market to market as travelling merchants. Round and near the market places are found a number of *lapaus*, the owners of which are under the market chief. The goods are conveyed by the merchant himself, by carriers, by cars, on horses, or in canoes.

Cattle raising is at a lower stage of development than agriculture. Nevertheless, the stock of cattle is of no slight importance. It consists chiefly of buffaloes, oxen, horses, and goats.

Of the industries, however, few branches are exercised as a profession, most of them being of a domestic character.

Very much sought after are the rich *kains* interwoven with gold of *Agam*, and the magnificent woven fabrics of *Siloenggang* and *Soengai-Poea*. The yarn for these fabrics is at present obtained mostly from Europe and America. Rope and string work, however, which is remarkable for neatness of workmanship, strength, and durability, is of

smiths not unfrequently turn out excellent and artistic work; of the latter, those of *Soengai-Poea*, in *Agam*, are among the most skilful.

DAYAKS.

Dayak is the collective name by which, according to the meaning at present attached to it, the tribes dwelling in the interior of Borneo and also on the coast line of that island are denoted, in contrast to the Malays, who have settled along the coast and the chief streams. Where and at what time the name Dayaks originated has, until now, not been sufficiently elucidated, but as it has become conventional, the term Dayaks will, for simplicity, be used throughout. It should be borne in mind, however, that the tribes whom we are accustomed to call Dayaks do not by any means speak of themselves by that name, nor yet use it to indicate allied tribes. It interrogated as to his origin, the Dayak will name in answer the river beside which he lives, the tribe or family to which he belongs. The Dayaks are akin in race and language to the westerly branch of the Malay-Polynesian race, which has also populated the other islands of the Indian Archipelago, and were likewise already established in Borneo before the Malays proper, the Chinese, and the Hindu-Javanese took possession of parts of this island and drove them away from the coasts, by which invasion they were compelled to seek out a dwelling-place for themselves deeper inland. By no means must the Dayaks, however, be regarded as the autochthones or aborigines. On the contrary, their original home, like that of the remaining Malay-Polynesians, must be sought in Upper India, which they left to settle in Borneo and, it seems, in Formosa likewise. Originally the Dayaks

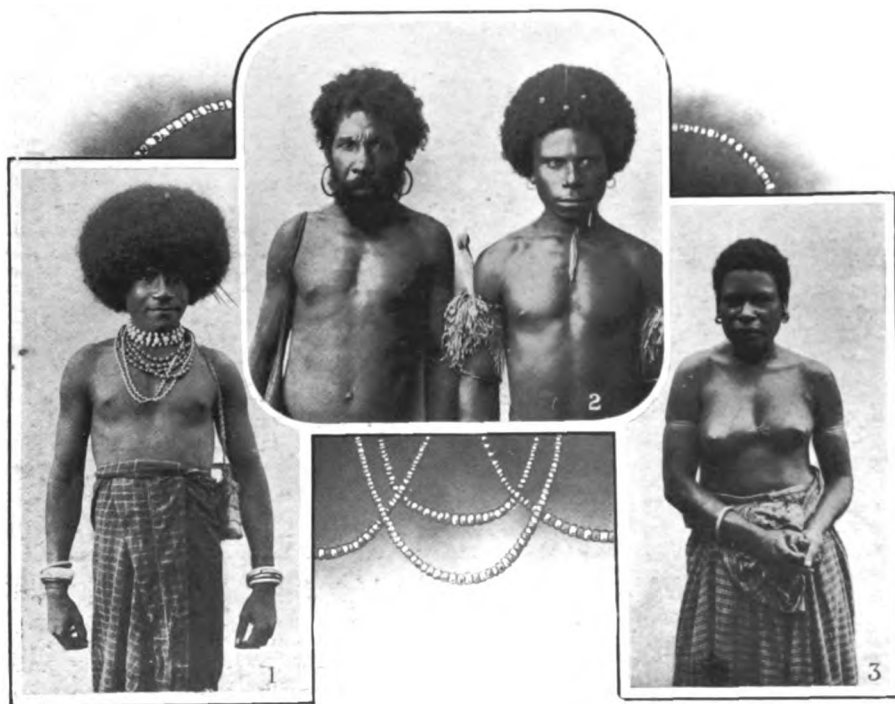
appear to have been nomads, and, with the exception of a few tribes, to have exchanged their wandering life, in process of time, for settlement in fixed places of abode, above all where the rule of others held out prospect of a less perilous existence. Few wandering nomad tribes are now to be found in the coast regions, partly by reason of the extension of Dutch and British authority, and partly owing to the influence of the Malays; in the practically inaccessible central part alone, wandering tribes are still found. It follows from this that the Dayaks may be divided into nomad and sedentary tribes. The number of the former is small; they may all be classed in two principal tribes, the Poenans and the Ot. The Poenans, more developed than the Ot, are found scattered in the central mountainous region. The Poenans have always been notorious for their mistrustful character. This is true, though of a less degree, of the Ot, who, however, when once attacked, are oppo-

mentally, the Dayak is far superior to the Malay, and greatly transcends him in physical strength. The same is true of his disposition and social virtues, which have, unfortunately, in those tribes which fell under Malay influence, greatly suffered as a result chiefly of oppression and extortion. In those places, however, where the Dayak still reigns free, even though tributary in name, he has remained honest, faithful to his given word, hospitable, and readily helpful. He is careless and indolent, and in the higher degree quarrelsome; he delights in litigation. Against this must be set the fact that intercourse between husband and wife, parent and child, and vice versa, and members of the family with each other, testify to great love and indulgence towards mutual faults, whilst the position of the married woman is infinitely more favourable than that of her Malay sisters. The Dayak woman plays no subordinate part in domestic and social life; on the contrary, she is not even excluded from

have no mode of writing; and, on the other hand, from their strong tendency to live apart in tribes or families as far as possible, so that each group and each sub-division shows characteristic deviations in its speech, sometimes very considerable, but at others slight. Many of these dialects, or patois as they could be called, can, however, be reduced to a few principal ones, of which that of the Olo Ngadjoe or Biadjoe Dayaks in the Southern and Eastern Division are best known, thanks to the thorough studies of the Rhine Society's missionary, Dr. August Haudeland.

In the choice of his daily food the Dayak is not fastidious, nor does he use many kitchen utensils in its preparation. Usually, in the interior at least, his cooking utensils consist conclusively of some bamboo vessels in which the rice, sago, or earth fruits and greens are boiled; imported vessels, such as iron pans and the like, are found only in the lower tracts. At feasts, solemn offerings, and burials, however, there is very excessive drinking of palm wine and of home-made arrack, and eating beyond measure. In addition to the above-mentioned stimulants the Dayaks, with the exception of some Kajan tribes, are acquainted with the use of the betel nut, and also with that of tobacco, which is both chewed and smoked. The Dayaks do not use opium.

The ordinary dress of the male Dayaks consists of a loin cloth of beaten bast or cotton, and sometimes, above all in bad weather, a jacket made of the same material. Their adornments are plaited rings of bamboo or rattan on arms and legs, to which are added sometimes ear ornaments. The dress of their women consists of a short close-fitting lower garment and baadje, and, according to the means of the husband, of more or less costly adornments, such as ear pendants, necklaces, armlets and wristlets, and ornaments worn on the leg. For covering the head, large hats of plaited rattan are used, and also caps, the former, chiefly for protection against the sun's rays. The hair, which is always worn long by the women, is wound high in a roll; this is likewise the case with the men, with the exception of those tribes which are accustomed to cut their hair, such as the Batang Loepar and others. Some, like the Olo Ngadjoe, use a sort of hair band, at least, in the uplands, as the dwellers in the coast region, just as elsewhere in Borneo, show a greater and greater tendency to abandon their original dress in favour of a Malay costume. Practically all the tribes file their teeth, and blacken them afterwards. In the Olo Ngadjoe, in addition, gold pins with a small head are often inserted between the teeth, whilst the Batang Loepar of the Boekit Pan enclose the incisor teeth in copper or gold cases. In addition to tooth filing, mention must be made of tattooing in various figures pricked on the skin; this serves partly for ornament and partly for distinguishing the several tribes from each other. Thus, the Olo Ngadjoe, for instance, are distinguished by a blue triangle on each calf, the Ot Danoms by a black disk on the same part of the body. This custom is general in Borneo, and the Bekatans alone appear never to have tattooed themselves, while it has fallen in disuse amongst many tribes in the lowlands. Some tribes think a rather flattened skull particularly pretty, such as the Milmanau (on the river of the same name, a branch of the Baram) dwelling in Sarawak, and for this purpose they deform the heads of children, pressing them to some extent flat by means of a special plank. Though the ordinary dress of the Dayak is



1. NATIVE OF POM (NORTH NEW GUINEA). 2. TYPES FROM HUMBOLDT'S BAY.
3. WOMAN OF DJAMNA.

nents by no means to be despised. Their territory is enclosed by the mountains which form the eastern and southern watersheds.

Sarawak and Brunei shelter the wide family of the sea and land Dayaks (split up into a number of tribes), and on their southern borders the Batang Loepar, Kajan, Penhing, and others.

The Dayak is of medium height, but well built and generally very muscular, which properties endow him with a special fitness for working and for undertaking fatiguing journeys both on water and through the inhospitable tracts of the interior. His fine physical structure, his deftness and skill, power and endurance are greater, and the colour of his skin grows lighter, owing to his residing in the forests, in proportion as he lives farther away from the coast regions. The hair of the head is black and smooth. Curly-haired Dayaks or Dayaks with pig-tails are not found, nor do the wilds of Borneo give shelter to the so-called Negritos.

government, so far as there is any question of government among the Dayaks. Cowardice and bloodthirstiness, with which the Dayak is so often reproached, are foreign to him, if we measure him according to the degree of civilisation he has attained. In actual fact, he is of undaunted courage, and although he prefers to spring upon his enemy from an ambush, he does not shrink from fighting in the open field, as various facts prove. He is very temperate, and indulges in excess of food and drink only on festive occasions.

With regard to the languages of the Dayak, it is difficult, in the absence of sufficient data, to enter upon the classification of the various dialects. It is, however, proved that no matter how numerous and different these dialects may be, all of them belong to the western branch of the Malay-Polynesian family of languages; and that the number of different dialects is considerable in relation to the extent of Borneo. This has its origin, on the one hand, in the fact that the Dayaks

extremely simple, his costume is quite different on festival occasions. He adorns himself with finely woven girdles and baadjes, the latter, like the sarongs of the women, often bespangled with beads (as in the case of the Taman-Dayaks) and a number of ornaments which for the most part denote a great amount of good taste and testify to unmistakable artistic feeling. The children, who otherwise often go naked, are then dressed up in the same way.

The dwellings of the Dayaks, in the interior of the Southern and Eastern Division, all stand apart, mostly in a rather inaccessible place on or near the bank of a small river. A palisade, often made of iron-wood, surrounds it completely, only a small opening being left, which can easily be shut. The house itself, as a rule built in the form of a right-angled parallelogram, rests on poles about 3 metres high and is covered with wooden tiles, palm leaves, grass, or pieces of nipah leaves, whilst the walls consist of plaited work or planks; the floor, of nibong laths or bamboo. Within, the house is divided into a long room extending over the entire length of the building, which is the common room; behind are the little sleeping rooms, the place of repose of the various married couples who live together in the house. Under the house, which is reached by a ladder sometimes leading up to a kind of verandah and sometimes giving direct access to the common room, is the storage place and the shelter for pigs and poultry. Sometimes there are adjoining the house storage sheds and houses for the dead. A raft is provided adjoining some of the houses standing on the large rivers; it serves as a landing stage and now and again a bathing house is found on it. In the low-lying regions there are no eternal feuds compelling the Dayak to make his house at once a dwelling and a block-house. There has taken place in most tribes a union of village communities, the houses of which, although the palisades are wanting, often present the old type of structure. The nomad tribes, who have no fixed dwelling place, such as the Olo, Ot, and Poenans, dwell in houses erected both on the ground and in trees. Little attention is given to adorning the houses, and the household implements are meagre. Mat-work and basketry, cooking utensils, a few agricultural implements, weapons, and often one or more holy pots are usually all that is contained within them. They are lit up in the evening by the hearth fire, in the fireplaces which are usually in the common room, or by the aid of resinous torches; during the day some amount of daylight is admitted through the doors and openings cut in the walls. Round about the hut there are usually a number of poles, some ornamented with carved work, others smooth, which will be referred to later.

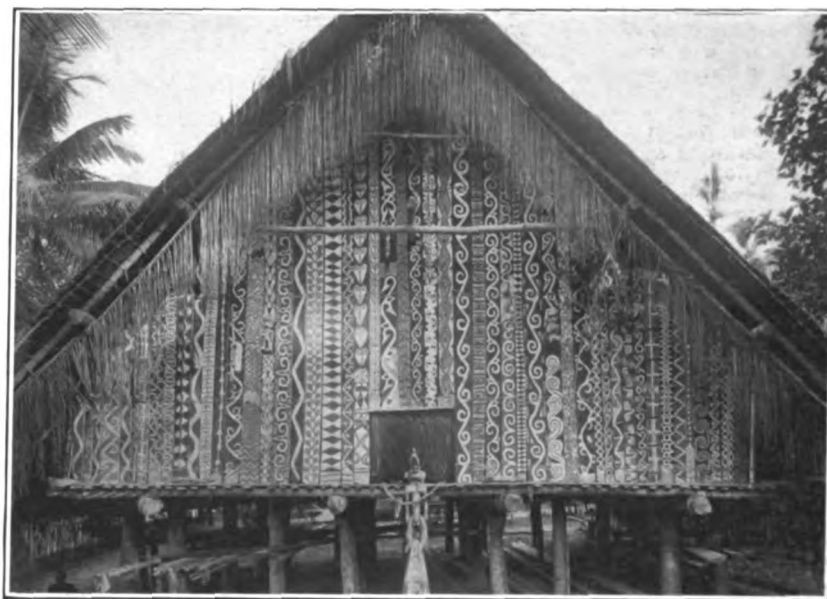
The Dayaks engage little in hunting, but, nevertheless, every animal running into the trap or coming within reach of his blow-pipe or lance is killed and taken possession of as a welcome booty. They go out hunting only by way of exception, and are then accompanied by dogs, which they are able to train very well. Battues are sometimes held, particularly for stags and wild pigs, which are driven into a space set about with snares and traps, and after running into them are disposed of by the men watching for them. Particular mention should be made of the bee hunt for obtaining honey and wax, which is carried out at night when the weather is unfavourable. Though the Dayak is no very passionate

hunter, he is, on the contrary, a most excellent fisher. By means of hooks and various kinds of nets and drum nets, he procures the desired fish supply; he has likewise been known to poison the water with toba, in order to stupefy the fish, the latter being caught by means of harpoons, sweep-nets, &c.

Agriculture is still at a very low stage among the Dayaks, and seldom is more planted than each family needs for its daily consumption. If the harvest fails, famine with all its consequence stares them in the face. The piece of forest land suitable for cultivation is simply cleared of undergrowth, and any wood growing is felled and burned as far as possible; the ash is then spread over the field as a sort of manure. Afterwards, a small watch-house is erected for the purpose of protecting plants against four-footed marauders and birds. Among most tribes, the rice is simply sown on the clear space obtained; but among those in the lower countries, the rice plants are first developed to some extent on wooden rafts

the property of the holder or holders; if it is abandoned, it once more falls to the community. Neither ground ownership, nor village grounds are known in the interior. The implements consist of axes, adzes, planting sticks, rice-reaping knives, fans, sieves, &c. The scarecrows to frighten away animals and beasts consist of various clattering devices, which are set going by the watchers in the field or by the wind. The time to begin planting the field is determined by the Dayaks by the aid of the position of some constellations, and also by the budding of wild plants.

With regard to Dayak industry, it must be directly acknowledged that it stands at a fairly high stage of development, although the products find buyers only among the people. Workmen by trade are unknown among the Dayaks. Every man is a smith, carpenter, engraver, &c., as required; every woman is acquainted with weaving, dyeing, and spinning. Nevertheless, the patterns of their plaited and woven work, and the bead embroidery are very attractive, owing to



NATIVE DWELLING HOUSE (KARRIWARRI) IN DJAMNA, NORTH NEW GUINEA.

in the river, and afterwards planted over. When the rice begins to ripen, the harvest is begun, and the entire field reaped straightway, regardless whether all the ears have reached full ripeness. The rice is then stamped and kept without the straw in the special storage places. As alternate cultures, turnips or the like, maize, beans, &c., are planted. Close to the house, there is often a small garden in which a little sugar cane, betel nut, Spanish pepper, and the like is grown. The forests yield coconuts, palm wine, the vegetables already mentioned, and also the materials needed for building and repairing the house, the raw materials for weaving and plating, and dyeing agents, &c. The forests are communal property, as is also the soil; every one is entitled to collect forest products, or to lay out a field where he thinks fit. In token of taking possession of a tree or a piece of ground, a sign is mixed or put up rendering them inviolate. As long as the ground is tilled, it remains

their elegant combinations of lines. The bead baadjes of the Jamans, the carved work of the Ot Danom, Batang Loeper Sangers, &c., not even excepting that of the Poenans, testify to great skill in the manipulation of shuttle and knife. If it be added that a pattern is never copied, but always designed, so that, for instance, a woven pattern must stand out with perfect clearness in the mind with all its details of lines and colour combinations before it is dyed and put on, it will be clear that the Dayaks are born artists in this respect, too. Their chopping knives are characterised by strength and general excellence, as likewise are their lance and blow-pipe tips, which, in the upper countries, are often wrought from iron mined by themselves. Indeed, their skill is most evident in the making of blow-pipes, in which the Pari tribes, above all, have acquired the greatest renown. If the weapon is held vertically, the bore is curved, but when held horizontally it is straight,

Therefore, in making the bore, the weight of the tip which is attached to it must be taken into account, and calculated so accurately in relation to the flexibility of the wood used for the gun, that the curvature of the bore is greater in proportion as the wood is more flexible or the iron heavier. In addition to working iron, the Dayak likewise knows the gold and silversmith's art; for making silver ornaments, he uses chiefly imported and coined silver, but the necessary gold he obtains by washing. Precious stones are seldom used for ornaments. Agate alone, ground into long, thin, pipe-shaped beads with facets, is in use.

The nomad tribes do practically no trade, and the sedentary but little. Formerly, trade in the interior consisted in barter, as money was not yet current. Tribes dwelling on communication roads, however, have gradually learnt the value of money, without falling victims to greed of money. Export trade is practically non-existent, and import of little extent. The case is different in the lowlands, where trade may be described as fairly brisk, chiefly in various products such as rattan, timber, gutta-percha, and plaited work. These commodities are conveyed by water on large rafts of serviceable wood, so that both vessel and cargo can be pecuniarily realised. The Dayak, it is true, does not get much profit from this trade, as the money earned, often at the cost of great exertion and journeys lasting months to gather and convey the desired products, is frequently spent in the course of a few days. Where transport by water is impossible, trade stops altogether, and conveyance is effected by means of carriers bearing baskets attached to a band fastened round the forehead.

The weapons consist of a sword in the Southern and Eastern division, usually having a blunt-edged triangular blade, or (in the Western Division) sabre-shaped, as among the Batang Loepar, or again, bent at an angle in the middle, as among the Kantoek, and in other cases again having the form of a leaf. The handle is usually hook shaped, made of hartshorn, and adorned with carving and meshes of human or other hair; it may likewise be in the form of a knob or cross. With this sword, there is always a wooden sheath, to which there is attached, in the Southern and Eastern Division, a case made of nipah leaf or hide for receiving a small carved knife with a long wooden haft, which is used to remove all flesh from the heads of the slain enemy and for other purposes. The Dayak further uses a blow-pipe, which may at the same time serve as a lance, for which purpose it is provided with an iron tip fitted bayonet-wise. At the upper end there is likewise a sight. Through this blow-pipe, arrows, poisoned with ipoh or siren, are blown. The arrows are carried in a quiver hooked on the belt on the right side. This belt also carries the tinder-box, the little pot of poison, and the calabash for the maple husks which are fixed at the lower end of the arrow in order to make it fit the blow-pipe. For protecting the body, the Dayak uses a baadje of padded material or hide, and sometimes a kind of jerkin of plaited cord and a wooden shield, often painted with awe-inspiring figures; likewise a head covering of rattan, adorned with feathers, and a mask. If these feathers include the tail feathers of the rhinoceros bird, it is, at least in the interior, a sign that one head has fallen by the prowess of the wearer. Portable fire arms and cannon, which were formerly rare among the Dayaks, have become, during the last fifty years, more widely known, but, generally speaking, they are bad shots. Their

mode of warfare seldom consists of encounters in the open field, but, on the contrary, almost always of ambushes. The Dayak prefers guerilla warfare, even when, as sometimes happens (more in earlier times than at present), he marches to the encounter in large troops. Entrenchments are seldom made, as each house in itself forms a sort of fort; for this reason, a direct attack on the houses is avoided as far as possible. Usually the assailant confines himself to lying in wait for those who may wander far from the house, cutting them down and severing the head, and if there is a favourable chance, taking the inhabitants by surprise. Attacks *en masse* by warring sides upon each other are the exception, although our military history can attest that the Dayak, when once he has begun them, is an enemy not to be despised. Wars arise in consequence of quarrels which can only be settled sword in hand, as a consequence of non-payment of debts, the seizure of slaves, and the cutting off of heads. This last practice, which has almost completely disappeared in the lower countries, but is still honoured by observances in the interior, has a two-fold



ELDEST SON OF THE LATE
RAJAH OF LOMBOK.

purpose. In the first place, heads are cut off by way of offering to the dead; in the second place, in order to acquire a warlike reputation, and thus enjoy increased consideration. The skulls of those slain for the former object are placed on the grave of the dead, so that the souls of those slain may accompany him as servants in the hereafter; the skulls of those beheaded with the latter object are, however, kept in the house, where they also serve as protecting fetishes. Among some tribes, they are completely cleansed and smoked over the hearth fire. Among others, they are made into portraits by means of gutta-percha, by which an attempt is made to imitate the features of the murdered man. The skulls are at times covered with sheet tin or ornamented with engraving and palm leaves, and not infrequently they are partly coloured red with dragon's blood. A few tribes, such as the Jering Koetei, and the Pakering in the Southern and Eastern Division, are not only head hunters, but also

cannibals, just as formerly were the Djonkang, along the Sekajam and the Kayan.

As far as the Dayaks have been brought under direct administration or are under the authority of Malay princes, they are subject to the supervision of appointed chiefs. In the interior, however, where Dutch authority is less powerful and the Malay has no power, there is neither state nor society. Each family has its own head, sometimes of the female sex, but whose influence is slight; only during war time when the need for men capable of bearing arms compels a tribe to unite, those who excel in strength of character and intellectual qualities are at times entrusted with the chief command. Their authority is at an end as soon as peace is concluded. The title given to the head of the family is *anvei*, father; or *toea*, elder. His task is not difficult, because the utmost possible unity prevails among the dwellers in the same house. Between the families in different dwellings, on the contrary, repeated quarrels arise. If the elders are unable to settle the matter mutually, they call in the aid of some neutral colleagues, in order to arrive at a settlement and pronounce a decision. If even this does not remove the difficulty, a judgment of god is resorted to, which differs according to the nature of the matter. The same is the case when misdeeds have been committed, and the presumed culprit continues to deny his guilt. To the accompaniment of proceedings of little importance, two small coins, one of which has been scoured bright, are thrown into a tub of turbid water. The man who draws the bright coin is declared in the right, the other is punished. Important matters can only be decided by a sort of duel. The plaintiff and defendant are shut up in a cage which reaches to their arms, and must upon a given sign throw lances at each other. The man who is hit loses. In the same way, the water ordeal, the ordeal by fire, and other ordeals are applied. If a man refuses to submit to a judgment of god, he, by that very fact if he is the accused, acknowledges himself guilty of the fault laid at his door; if he is the accuser, his suit is rejected. When the proceedings have taken their course, and also when a war has been terminated by peace, there is not infrequently a solemn reconciliation of the parties, attended by some ceremonies, which formerly included the slaying of slaves, but now, for the most part, comprising the offering up of victims, an Indian ox taking the place of the slave. Usually, the solemnity terminates with an oath, by which they who give ground for breaking the peace and agreement entered into, call down curses upon themselves and their posterity. People frequently enter into friendship with each other by drinking each other's blood, or by imbibing it with the sirih plum, and plighting everlasting faith to each other the while. The punishments consist in money payments, death, and imprisonment. The first-named are most used, and consist of fines and compensation; the second is chiefly carried out by drowning in baskets weighted with stones of persons who have offended against morals; the third is inflicted on prisoners of war and those who are unable to pay their debts. Of these latter, the former become slaves, the latter bondsmen, *i.e.*, temporarily in the power and service of their creditor. The bondsman works exclusively for his master, who feeds, clothes, and maintains him, but who must pay him one-tenth of what he earns. This enables the bondsman to do what the slave never can do, namely, to purchase his freedom in time. This seldom takes place, however, as he is wanting in economic habits, and cannot

save what he earns, and also because it is difficult for him to obtain his due. As a matter of fact, therefore, slavery and bondage are fairly equal among the Dayaks. If a bondsman has procured or saved the necessary means to buy his freedom, he must give a feast to celebrate his redemption, and is required to live elsewhere. In the countries placed under direct Dutch administration, slavery has been abolished; in the interior, it still continues.

Marriage, amongst most tribes already individual, is in some cases, as, for instance, among some of the Olo Ot in the Western Division, still communal. Whilst there are tribes which are only exogamous, most of them, on the contrary, enter only into endogamous marriages. Exogamy is the rule among the tribes of the Western Division and North Borneo, endogamy predominates among Olo Ngadjoe, Ot Danom, and others of the Southern and Western Divisions. In both cases, the man is the head of the family, but on his death the wife takes his place. No marriage occurs without the assistance of intermediaries, and without the payment of a dowry by the bridegroom to the parents of the

of both sexes is quite free, provided no results follow, because then the guilty party is severely punished, as are also those committing adultery and detected. The marriage is always carried out with some solemnity, and the future husband and wife are usually painted with the blood of a hen or pig slaughtered for that purpose, and eat or partake of betel nut together in token of union.

The conditions applying to the contracting of marriages, at the same time, regulate the right of inheritance. Where exogamy coupled with patriarchal marriage exists, the wife abandons her own tribal connection entirely, and belongs to the tribe of her husband, whose legal property she has become because he has bought her. Therefore, the wife, being an article of property of the husband, has no property of her own, cannot leave anything, nor yet receive anything, as she forms a part of the estate. The case is otherwise where endogamy exists; there the widow inherits one-half of the property of her husband, whilst the dowry is for her benefit also, less the costs of the journey in the one case, and the funeral in the other. On the death of

the Poenans, and Bekatans, on the contrary, a tree is partly stripped of its bark, afterwards hollowed out, and the body put into the opening made. The bark is always laid over the hole again, grows on to the tree, and thus forms a living coffin. Some tribes in the Upper Kapocas preserve the bodies by smoking them. Others place them in a temporary coffin, which is sometimes borrowed, and when the flesh has decomposed, the bones are placed in the family grave. Different solemnities attend these proceedings, and a number of dirge singers appear to do honour to and bewail the dead. As the feasts for the dead mean a great deal of expense, they are often held years after the death of the person whom they are intended to honour, or, again, the feast may be postponed until several bodies can be dealt with together, so that the burial may be the more magnificent. Among the Olo Ngadjoe and Ot Danom, the feast for the dead, which usually lasts seven days, is called *tiwa*, a great deal being eaten and drunk, and the priests taking part in the functions in order to make easier the journey of the departed to the land where the souls



BATAK WOMEN (SUMATRA) POUNDING RICE.

bride, even when the latter has been abducted. This latter occurs, for instance, among the Olo Ngadjoe, if the youth and girl are agreed but fear opposition of the parents, and also if a man compels a girl or a girl a man by cunning to enter into marriage. Plurality of wives, although permitted, seldom occurs, because of the great expense involved; polyandry exists, so far as is known, among the Dayaks of Sidin. Boys and girls who have reached the marriageable age are entirely free in their choice, at least where endogamy exists, but they are chiefly guided by the wishes of their parents. This freedom does not exist in child marriages, when the children are betrothed to each other in their youth, or even before they are born, nor is there any question of it in marriages which are contracted between children and adults. The solemnisation of child marriages takes place when both have reached puberty; those of children with adults directly as to ceremony, the consummation being left until the child has reached a proper age. The intercourse between young persons

the wife, the dowry passes to her father, but her possessions to the widower. As regards the children, in endogamous marriages, they inherit equally the estate to be divided, but in exogamous and patriarchal marriages, the daughters are excluded from inheritance. In this latter case, if both parents die and there are infant children, an uncle on the father's side is usually appointed their guardian; but in endogamous marriages, a brother of the mother or the father. Divorces occur seldom in exogamous patriarchal marriages, but more in endogamous unions. Barrenness, unfaithfulness, &c., are the occasions for divorce.

Circumcision as an original institution is practised among the interior tribes of the Southern Division, by squeezing off the prepuce.

Burial among the Dayaks takes place in various ways. Some tribes in North Borneo place the mortal remains of their dead simply on trees, or, like the Ot Danom, the land Dayaks of Sarawak, and those of Sidin, use cremation. Among the Olo Ot,

dwelling. A number of things are placed with the dead, so that the soul may make use of them in the hereafter; for the same purpose, in the interior at least, slaves are slain, and the poles referred to earlier erected in memory of the dead. The Olo Ngadjoe conceive this hereafter as an island in the sea of clouds, the Ot Danom picture it as lying on the Bockit-raja, whilst other tribes refer to other mountains as this home.

The period of mourning lasts from the day of death until the conclusion of the feast. The mourning dress consists of white or black clothes, and chiefly in their divesting themselves of, or, if this is impossible, making invisible the daily ornaments, in order to deprive the departed of the opportunity of recognising the relations he has left, and making their life burdensome if they postpone too long the solemnisation of the feast of the dead. The end of mourning is marked by some ceremonial, among others the solemn dipping in the water of all those who had any connection with the dead and

are consequently unclean, so that they may return to their daily occupations.

Remarkable physical phenomena frequently occurring among the Dayaks are, in the first place, the occurrence of albinism and goitre in the Western Division, with which, above all, those tribes of the Melawi known as the Oeloe Ajer are afflicted, and further skin diseases, the principal among which is the koerap or scaly disease. Among the diseases of the blood, syphilis, which occurs more in the Southern and Eastern Divisions than in the Western Division, must be mentioned, and among the acute diseases, small-pox, cholera, dysentery, and fevers. The function of doctor is fulfilled in the South-Eastern Division by the balians and basirs, in North Borneo by manangs, in the Western Division by people who possess some medical skill. For external treatment, these "doctors" employ massage, blood-letting, above all incantations; for internal treatment, some herbs and animal products.

The Dayaks divert themselves with music, dancing, story-telling, and putting riddles,

speaking, nor yet any division of the year into months and weeks. They determine the seasons chiefly according to the advance of vegetation. They regulate the time of day by the position of the sun, that of night by the position of the moon and the cock-crow. Short periods of time are denoted by the length of time required for carrying out some piece of work or occupation.

The Dayaks have many prohibitory laws, which may be divided into things prohibited perpetually and under all circumstances (such as the mentioning of one's name, for instance, if an Olo Ngadjoe is called bintang=star, or if one of his family bears this name, he may not use the word moon, but is required instead to say "pariama"); things prohibited at certain times, and on certain occasions, such as we became acquainted with in describing customs in connection with burial; and things forbidden at certain places, such as the naming of certain mountains, the making a noise on certain spots, &c., because in this way the spirits which dwell there would be disturbed.



A NATIVE "CHEAP JACK."

Their musical instruments consist of gongs, drums, shaking instruments, clarionets, flutes, and two-stringed violins. Particular mention should be made of the "neu" whistle, which is found chiefly among the Poenans, and is in use among the Oeloe Ajer, women only, as a toy. The dances are divided into straight and circular dances, the hands and feet being rhythmically moved to the measure of drum or violin. Sometimes, also, pantomimes are performed, borrowed from war and the chase, in which a great deal of muscular power is developed. They are characterised by a just representation of the scene imitated. The pictorial arts of the Dayaks show great originality, and their products are mostly distinguished by a certain charm, in so far as ornamental character is concerned; the reproduction of objects from nature, however, is often defective.

Where the Dayaks use no foreign, *i.e.*, Mahomedan or Christian, calendar, they have no calculation of time of their own, properly

The religion of the Dayaks is animistic; to each object, animate or inanimate, they attribute a soul. The souls of inanimate objects, as also the souls of men and animals, may leave their dwelling place temporarily or for good. If this has taken place with a man, and if his soul does not return because it is prevented, the man becomes sick; if it stays away altogether, he dies, and the soul, because the feast of the dead has taken place, goes to the land of souls, whence it never returns. Before the feast of the dead has taken place, the soul, still inhabiting the earth, is very much feared, owing to its malignity. Otherwise, it is seldom thought of. The contrary is the case, however, with the numberless spirits by which the Dayak believes his surroundings to be populated. At their head is a creator, who is deemed to reside in heaven, is benevolent, and therefore receives but little homage. His name is given differently by the different tribes. The Olo Ngadjoe

call him Hatala or Mahatara: the sea Dayaks, Djiwata, &c. These spirits include various classes of air, water, forest, and other spirits, partly good and partly evil, which latter receive testimony of the greatest respect, because epidemics, harvest failures, and other misfortunes are ascribed to their influence.

The religious practices of the Dayaks in the Southern and Eastern Division take, in the first place, the form of Shamanism, practised both by men and women, known as balian and basir, within whom benevolent spirits of the air, sangiang, take up their abode, and who make known the wishes of these spirits to man in the basa sangiang. These persons, at the same time, play the part of priests and priestesses and public men and women. In North Borneo and the Western Division they are not found. In the first-named territory, we find, on the contrary, the manang, who fulfils the combined offices of exorciser of devils, theologian, and doctor. In the Western Division, no specific persons are found entrusted with these duties. These practices also take the form of sacrifices, a number of animals being slaughtered (formerly slaves and bondsmen frequently suffered the same fate) and many foods being served up. The essential part of the sacrifices falls to the priest, and the substantial part to the offerer. Such structures as temples, places of prayer, &c., are not known to the Dayaks. The sacrifice is made either in the house or in a shed put up for the purpose. A separate place in the religion of the Dayaks is occupied by magic and spells, which it is needful to avoid by using amulets and protective measures. The amulets and magic objects consist of all kinds of articles, which, owing to their presumed power, are able to bring luck or ward off misfortune. The most precious among these are severed heads, but not the least prized are the holy pots which the Dayaks distinguish into male and female. Owing to their supernatural origin they are regarded as being originally divine—great power is ascribed to the soul dwelling within them, both for protection against illnesses, for the prevention of bad harvests, &c. No less value is attached by the Dayak to the art of predicting the future by consulting external signs, such as the cry of certain birds, the chance encounter of snakes, &c., and the examination of the entrails of specially killed animals. He will not undertake anything without having previously consulted the auspices.

Finally, mention should be made of the cosmological phenomena. Earthquakes are ascribed to a snake which carries the earth, and shakes the latter when moving; lunar eclipses to an evil spirit which holds the moon prisoner; the sunset glow to great snakes disporting themselves in the sea.

THE BUGINESE.

The Buginese and Macassars are peoples of common origin, but, as regards languages, are sharply distinguished from each other, so that in South Celebes, Macassars and Buginese speak their own language exclusively; and even on the borders of the Buginese and Macassar countries, though the speech of the people is less pure, there is no question of a mingling of languages. The chiefs there understand both languages, but each expresses himself in his own, whilst the members of the Macassar settlements in Buginese countries continue speaking their own language. In some

institutions and customs there is also a difference, although it is not difficult to perceive their relationship.

Externally, the Buginese are little different from the Javanese, who, like the former, belong to the brachycephalic type. Generally, they are well shaped physically, slender and muscular, and above average height; the women are described as handsomer than the Javanese, whilst their colour, like that of the men, is lighter than among the remaining Malay races. The character of the Buginese is often represented as very unfavourable, as they are revengeful in the highest degree, and addicted to murder and robbery.

The Buginese are Mahomedans; Islam is said to have been brought to Jello and Gowa in 1606 by a certain Dato ri Bandang, a Menangkabau man of Kota Jengah, and to have spread from there owing to the exertions of the Prince of Jello, likewise administrator of Gowa, Abdallah Joe mamenanga ri agamana, over South Celebes, and above all in Boelo-boelo.

Just as among almost all other Mahomedans in the Indian Archipelago, a great deal of the older belief has remained, and *inter alia* they revere a number of spirits—in the first place, the protecting spirits, dewata, in whose service are the bissoes, who in the feast celebrated in honour of these spirits play the chief part. Such feasts are held on special occasions, such as births, marriages, recoveries from illness, and even to find out the protective spirit for the person concerned, who must come to the assistance of the sufferer.

The Buginese may be divided into the princes with their descendants and other nobles, the ordinary people, and the slaves and bondsmen.

As regards administration among the Buginese, the following may be stated:—In the Government territories, the princes are replaced by regents, who are paid by the governments, and are assisted by district chiefs having different titles. The nobility consists of the descendants of the princes, who are a positive scourge to the population.

A Buginese kampong consists of five, ten to twenty, seldom more than forty houses, each resided in sometimes by ten, twenty, or more persons, and scattered without any order. The space beneath the house serves, as usual, for the storage of agricultural implements, worthless wood, bamboo, ataps, &c., and at night as stables for horses. Between the houses there are ox kraals, here and there surrounded by a rough fence. Round about the houses are fences of all kinds of materials, which are only cleared when an official and chief visits the kampong. There are all kinds of trees, cocoanuts, mangas, bamboo chairs, &c., each of which has its separate owner, but which are scattered without any resemblance of order, and cover the whole area; between them grow weeds and undergrowth, which are almost impenetrable. The kampongs are reached by traversing dykes, often passable with difficulty, in rice fields, which dykes lose themselves in paths trodden by the passage of men, oxen, or horses. Each kampong, furthermore, has its own sacrificial house, in which sacrifices are made at all feasts given by dwellers, and also yearly at the joint sacrificial festival.

The houses of the Buginese are built of bamboo and partly of wood on piles 4 to 6 feet high. Usually, the stairway leads to a built-out section intended as a kitchen, &c., with a part hanging on the adjoining struts, which serves for storage. The other rooms lie somewhat higher. The floor is made of split bamboo laths, which fact is often turned

to account by revengeful men, who either themselves or their slaves go by night beneath the house of the enemy, and thrust a lance through the spot above which the latter lies. For this reason, the sleeping mat of a leading native is often spread on a hard buffalo hide or bolster.

The clothing of the Buginese is very simple, and consists of short trousers, resembling swimming drawers, a head cloth and a sarong, which, during heat or rain, is thrown over the shoulders or the head, and serves as a covering at night. In the waist belt are carried a kris or kalawang, and attached to it a bag, mostly red, for keeping sirih, corn, &c. In the chief places or towns, most of the people, particularly on festive occasions, wear the badjoes; in the interior, only the regents, the notables and chiefs, who, however, also put aside this garment when play begins. The notables wear short hair, whilst the inferior people let it grow long. The former at times wear a small hat, called songko, made of the fibres of the Tala tree, and their weapons, belt, and bag are often buffalo hide, inlaid with gold. Women

young man seeks out the girl, and, seating himself next to her, binds himself to her by a sarong around their waists. Taking his naked kris in his hand, he threatens to kill the girl if the parents do not give their consent, and they, as a rule, yield to save the life of their child. On the other hand, if there is a chance of the parents of the girl consenting, the parents of the boy send a messenger, who, in flowery and figurative language, makes the application. If it is accepted, the man sends all kinds of presents, and the day is fixed on which the "sealing of the bride's consent by the bridegroom" is to take place, which consists in the sending of presents, and a meeting, whereat the dowry in money or presents is frequently arranged, if it is not fixed by custom among the people.

At the present time, there are no longer any laws among the Buginese as to marrying inside or outside the tribe. Marriages between blood relatives, including first cousins, are prohibited. Marriages of women with persons of lower rank are strongly disapproved. When men marry women of lower rank, which frequently happens, the



JAVANESE BALLET DANCERS.

wear the sarong and badjoe. The latter, when worn by girls, is often made of transparent material.

Marriages are usually arranged by the parents; the few opportunities the young couple have of meeting each other are at harvests and spinning feasts, which take place but seldom. A peculiar institution is the so-called princely "swing feast," which is still held in Segeri, and at which the princes are given an opportunity for showing their liking for princesses, who, one by one for this purpose, take their place in a swing. In preparing a marriage, care is taken to see that the husband is of the same social position as the wife; those who contract mesalliances are immediately repudiated by their families. Among the Wadjoese the ordinary man, however, can for Fl.800 make himself the equal of a noble. As the first step towards an arrangement, the parents of the young man send some one to the parents of the girl. If they are against the marriage, it is usually dropped; it sometimes happens, however, that the

children are not of the same rank as the father, but only half of them possess his nobility. The children issuing from a marriage, in fact, belong in part to the mother, who obtains the oldest, and the father the following child, and so on, the youngest in an odd number belonging to both, with the proviso that the mother has the right to acquire it for a certain payment. In marriages of a free man with a slave, the first child is also a slave, the second free; to slaves belonging to different masters, this division is also applied. The children inherit exclusively from him or her to whom they are allotted; an only child, from both.

The position of the women among the Buginese is fairly favourable. She manages the household and everything connected with it. She eats with her husband, sitting at his left side, and seldom will the man undertake anything without consulting her. In public life she often plays a great part. No election of a regent takes place without female interference. At public feasts, women take their place with the men, and they even take part

in public deliberations. Women may also ascend the throne, and it has not infrequently happened that women leaders have held command in war.

The married couple remain with their family as a rule, the husband and wife taking up residence where either possesses land. Only when the husband, owing to his means or occupation, will be better off in his own home than that of his wife, does the wife possessing land join him. There is no common ownership of property; each one is liable for his or her debts, unless the husband incurs them with previous knowledge of the wife, who is then regarded as surety. Usually the man administers the property of the wife, but for her benefit. She may do this herself, however, or entrust it to a member of her family. The goods contributed to the marriage, or acquired by either during continuance of the marriage, therefore, are not possessed in joint

proceeds from the wife without her stating sufficient reasons, she must repay the dowry.

The Buginese are very temperate in their mode of life. Their staple food is rice, with a few additional dishes and fresh or dried fish. Only on festive occasions is a buffalo killed and the meat eaten. The poor mountain dwellers live chiefly on maize.

The means by which the Buginese obtains his livelihood are chiefly agriculture and navigation. The following particulars regarding agriculture and industry relate to the whole of South Celebes, and therefore apply both to Macassars and Buginese. On the plains near the coast rice cultivation is carried on by preference, but the production is not sufficient for the needs. Only in the northern districts, Soppeng and Sidenring is more rice harvested than, under ordinary circumstances, is consumed by the population. Maize is grown chiefly in the mountainous regions;

or Flores, and also on various islands to the east of Lombok. The Viceroy of Lingga springs from Buginese ancestors. On the east coast of Sumatra, adventurers in the last century played a great part. Generally speaking, they appear little attached to their place of birth, are not at all concerned about living there, and are satisfied if they are able to see it now and again. As regards ground ownership, uncultivated soil belongs to the district, and is not divided among the various kampongs. Where there is no uncleared ground, the soil belonging to each kampong is carefully defined. The rights of the members of the district to this soil consists in the right of working, hunting, meadow right, and the right of felling wood, gathering various products, &c. Each member of the district is entitled to clear as much ground as he can cultivate alone, or with the assistance of others. When ground begins to get scarce, it is customary to give notice of this intention to the district or kampong chief, and the clearing may even be prohibited. The man who has cleared the soil obtains the right of hereditary usufruct; nevertheless, the district retains a sovereign right over the ground, but everything planted and harvested is the property of the usufructuary. He only forfeits the usufruct if he fails properly to fulfil his obligations, *i.e.*, his obligations to the prince or the community, which vary according to the status of the usufructuary. In the principalities, these obligations consist of everything made obligatory by the adat, and all that the prince may please to demand; in the government countries, furthermore, of whatever is determined by the European authority to which people have grown accustomed. If these obligations are not carried out, the land is forfeited, and becomes part of the appanage land. The same is the case if the usufructuary has fled, or has died without leaving heirs; in those cases, the district chief, in concert with the Royal Council, must give the usufruct of the land to a member of the district, preferably a member of the family of a former usufructuary.

The cultivated soil is private or family ground; the latter is rarely the case, and mostly confined to noble families. The right of the usufruct may be let, gifted, and pledged, but never sold. The transfer may be forbidden by the district chief, if he thinks that the new usufructuary will not carry out his obligations. The letting of ground is either in consideration of a specific quantity of products, styled *sewa*, which rarely happens, or as *tesang*, *i.e.*, for a definite proportion of the harvest. When the hirer supplies the oxen and the rice for sowing, he receives one-half, otherwise only one-third or one-fourth. In coffee gardens, the harvest is usually equally shared. A peculiar fact is that the plantations and even trees may be sold separately; when the usufruct is forfeited by non-fulfilment of the *kassoewiyang*, the plantations, strictly speaking, remain the property of the former usufructuary, who is usually instructed to sell them, which he almost always does, because by the taking away of his ground his stay in the district is made impossible. Sales of plantations are rare, however, as pledging or mortgaging is the usual means of securing money. Some pieces of ground are in a peculiar legal condition—the appanage fields already mentioned, also fish ponds which may be sold, ground for which the usufructuary is bound to render certain services, and burial and sacrificial places, which, properly speaking, may not be alienated from their purpose (although the contrary very often occurs), and



BASKET AND BRUSHWARE HAWKER IN JAVA.

participation; those goods are, however, which are acquired by work in common. Upon death, common property is divided into two parts, one falling to the survivor, and the other being divided among all the children. In the chief towns the Mahomedan law of inheritance prevails more and more.

Divorce frequently occurs, particularly on the application of the wife. It may be applied for without giving any reason, whilst no remuneration for it is due to the priest. It even suffices if there are two witnesses for the husband and wife, who go to the prince, the latter pronouncing the divorce, and the priest communicating it. Among the Wadjorese it is sufficient if the mother or some one else of the family states in a few words that the husband or wife is breaking the marriage bond. If the divorce

in the Joerateya lands, Kadjang, Saleier, Bone, Wadjo, the Mandar and Kaili States, and Loewoe, it is the chief food of the population.

The Buginese are distinguished above all by their skill in and predilection for navigation, which even now is extensive and important among them. Centuries ago they were known as good navigators. In 1676, Amanna Gappa drew up a trading and navigation code for the Wadjorese, which is still in great repute among the Buginese traders.

Buginese colonists have settled on a number of islands in the archipelago. Considerable settlements of this people are found for example on the east coast of Borneo, at Samarinda (Koetei); on the west coast of Borneo at Soengei-kakap, Sambas, and Pontianak; in the Bantam Archipelago, and at Endeh

holy forests in which no felling may be done. As justice is administered with great arbitrariness, a great distinction is made in punishments according to the rank of the offender, and the person against whom the offence is committed. In order to get acquainted with these laws, the Rapang or Latowa are of importance, being collections of decisions of priests and sages on all possible subjects, in which there are likewise found a number of regulations of customary law.

The feasts of the Buginese are always more or less public; only the most respected guests and closest relations receive invitations; for the rest, every one who likes can come. Although a feast costs a great deal, the giver very often earns by it, as the guests usually make a present or give money, and he shares the profits of the man providing the games, because at a feast there must always be gambling, and there are frequently cock-fights, which occupy the chief place among the amusements of the people. Among games of chance, those chiefly in vogue are the tongko, played with a large die stone coloured white and red; the omi, which somewhat resembles the game of ombre, and other card games, the game of draughts, and that of gela, a kind of draughts. Music is also highly in favour; the Buginese orchestra consists of a drum, mouth trumpet, tambourine, a kind of clarinet, flute, gong, and violin. To European ears, the whole is anything but pleasing. Dances are executed by men, alone or with women. Among the former, the madjaga is the chief. Like the drawing room "reng," it is danced only at the court of princes and princesses. Public female dancers are also known to the Buginese under the name of padjogo; like the Javanese dancers, they are of loose moral conduct. It is remarkable that it is regarded as a great insult to pass between a dancing couple, so much so, that the dancer may stab and kill the man that does it. The dances danced by women consist more in exhibiting the flexibility of the limbs than in rapidity of movement; more lively are the war dances executed by men only.

NEW GUINEA.

The natives of New Guinea are the Papuans, who are divided into numerous tribes, but with regard to whose organisation little is known. We do know, indeed, that these small peoples are continually warring with each other, and constantly injuring each other by predatory raids. Owing to the establishment of Dutch authority, the state of things has improved somewhat in many coast districts. In some tracts, the missionaries also help to bring the populations into a condition of order and some civilisation, as for instance in Humboldt Bay.

With regard to the density of population of New Guinea, there is little to be said in connection with the small tribes or groups whom one gets to know on the coast. To the north of the Gulf of MacCluer, kampongs with twenty houses are found, each house probably containing at least five families, so that the kampong would number about one thousand individuals. Most of the settlements in the interior are said to be smaller than this.

We know little as to the State organisation of the numerous tribes. We do know, however, that where foreign influence has been little felt, no other authority is recognised than that of the chief of the family and the leader in battle.

Owing to foreign influence, in West New

Guinea higher chiefs have arisen. Not only has the Dutch Government and its authorised agents appointed them here and there, but persons, whether possessing rank or not, and even some traders visiting the country, have conferred all sorts of more or less pompous titles, which gave no authority, but by which the possessor deemed himself honoured. When these titles passed from father to son for some generations, they resulted in a sort of aristocratic families, who again conferred lower rank. Thus, local princes arose in West New Guinea.

As such, must be mentioned those of the Papuan Islands, the Rajahs of Onin, those of Kowiai, Aidoma, and perhaps those of the tribes living eastward, Kapia and Akara, among whom some are of foreign origin.

Humboldt Bay, on the north coast of New Guinea, lies in the east near the outermost boundary of Dutch territory, and is named after the famous natural historian, Von Humboldt. This bay is divided into an inner and outer bay by a small tongue of land grown with low wood and coconut trees.

The Papuans on the Humboldt Bay are not so far developed in their ideas as the

16 kilometres in length, surrounded by hills covered with along-alang fields, and here and there kampongs, all built on piles in the lake. The thin sharp pointed boats with which they traverse the lake have no outriggers, but they know how to keep them in equilibrium.

In Geelink Bay is a great gulf in the northern coast, into which various rivers empty. It forms a sort of inland lake with many small islands, shut off by a few larger ones, such as Pulo Jappen, the Schouten Islands, and Pulo Mesoor. On the north-west outlying corner of Geelink Bay is the settlement of Manokwari. Geelink Bay takes its name from the ship, the *Geelink*, which made investigations here in 1775. The Papuans living here differ in many respects from those living in the east. Perhaps this is partly attributable to the influence of foreigners, who come here to trade. The house structure also differs from that of the Papuans, the dwelling having a peculiar form. It is built on piles, and is fairly long; the middle section is occupied by a large space, in which a boat usually lies. This boat can take fifty people. Various little



THE NOON-DAY MEAL IN JAVA.

remainder. Owing to the abundance of food, no cannibalism is found. Plurality of wives does not exist, and adultery is severely punished. Alcoholic drinks are not used among the population here, but there is an immoderate use of tobacco. The chief food consists of sago, which, after being threshed and washed, is kept in baskets, and eaten as pap. Fish is largely used, and pork is much prized, but only eaten on festive occasions. Taro and oebis take the place of potatoes. They also eat coconuts, pineapples, and sugar cane. Besides coconut milk, they drink nothing but water. There can be no question here of any clothing proper, at least among the men; the women wear a sort of petticoat of beaten bast, tied round the waist with red cord, sometimes adorned with white shell. Woman is regarded as an inferior being, must work on the soil, and does not share in the festive meals.

Within the country, about a mile from Humboldt Bay, lies the Sentili Lake, about

rooms for the inmates open out crosswise on this space. The whole is covered by an oblong pointed roof. These vessels are used for their raids for the object of murder or plunder. Then amid loud shouting and singing, accompanied by the beating of the drum, a visit is paid to a neighbouring settlement. Usually the residents have for the most part fled, but the defenceless children or women are murdered, and the heads taken back home in triumph. Blood vengeance is still in vogue, and a return visit is usually expected.

In Western New Guinea, the MacCluer Gulf forms a deep bay. This bay was discovered in 1663 by Nicolaas Vinck, but was named a century later after the British commander, MacCluer. To the north of this gulf are found small kingdoms, each denoted by its own name. Of Berau, it is reported that this is the land most exposed to slave hunts. The Onin kingdoms, however, each have the right of trading on a part of Berau. They bring to

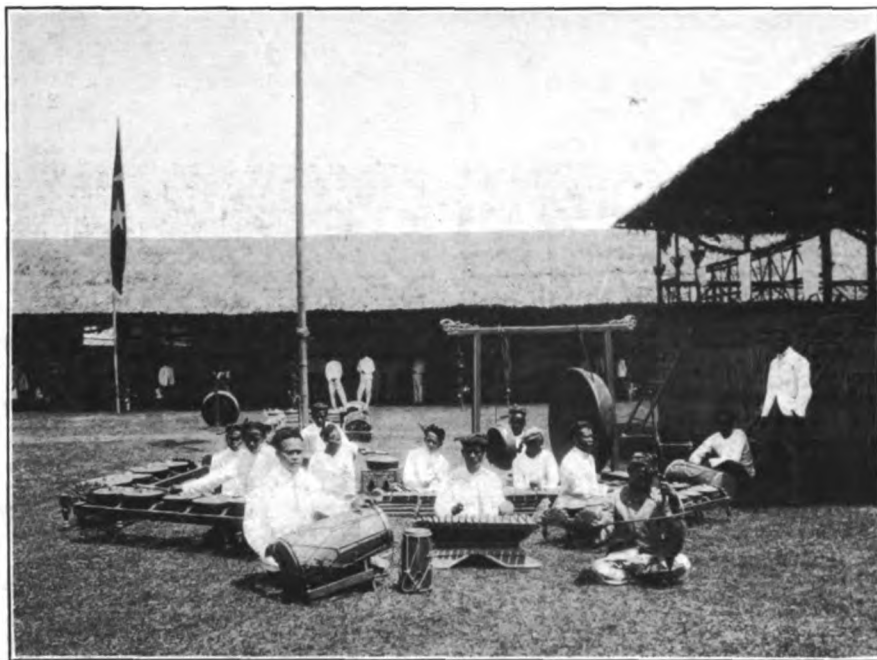
the market chiefly chopping knives and piece goods, and return with slaves and sago. In these little-visited parts, trade is highly profitable, owing to the low price of the export products. For the population of Onin, slave

less care is given to the structure of buildings than elsewhere; pile dwellings by the sea are little found here. Settlements often shift their places, and existing kampongs are repeatedly found abandoned. The population

In this territory lies the fort at Fak-Fak, the seat of the Assistant Resident; further, there are a few Chinese officers and some twenty policemen. The depth of the sea at the coast is fairly great, so that vessels can lie close to the shore. The administrative building and other houses lie on a hill which commands a beautiful view of the sea.

In the south-east lies the settlement of Merauke, on the Merauke River, on flat ground densely clothed with wood, broken here and there by treeless spaces with the poor dwellings of the population and plantations of pisang, sugar, &c. Merauke has now become a fairly busy settlement, where there are two European shops, some dozen tokos of Chinese and other Orientals, where one of the directors of the Merauke Company is established for wholesale trade in all kinds of articles, and where the bazaar is largely visited. The natives bring to market, above all, cocoanuts for copra, and owing to the barter the coconut planting is extending. Knives and axes are desired in exchange. Since 1895 Roman Catholic missionaries have been found here. It is the seat of the Assistant Resident.

The forest dwellers on the Merauke look tall and robust, muscular and well-built. They are not particular about clothing; the part covering of the pudenda consists of a shell, and this is often adorned with bands of string. The nostrils are mostly pierced, and through the holes small cases are inserted 2 millimetres in diameter, and sometimes instead of these the tooth of an animal or the nail of a bird. The colour of the skin is dark brown, and many smear themselves with a sticky material resembling clay, which gives them a yellowish colour. The hair of the head is black, as in all Papuans, with thin curls; some wear a round beard. In the pierced ear-shells they wear large rings made of the feathers of the cassowary. Some wear a head adornment of



MALAY ORCHESTRA.

and head-hunting among the defenceless people of Berau was a favourite sport, but this is now being counteracted.

To the south of the MacCluer Gulf lies the territory of Onin. Onin is the name given by the Ceramese traders to the chief portion of the land visited by them. The influence of Ceram is very distinct. The Onin language is a hybrid Ceramese, and is spoken in Onin proper and with some modifications in Kowiai; along the coast it serves as a *lingua franca*. The coast population of the Onin Peninsula with a large admixture of Ceram blood call themselves Papuans, and are Mahomedans. As such, they dress more than the population of the interior, and wear a headcloth or kerchief; they also do not possess the projecting curly hair of the interior tribes, and they are somewhat lighter in complexion.

On the south coast lies Lakahia, a small flat island which has long been known, in the bay of Etna, which was probably visited in 1606 by William Jansz in the *Duifke*, and on which coal had already been discovered in the seventeenth century. The population on this coast is more dangerous than that in the west; they speak a different language, and have had little trade relations with foreigners.

Kaimana, now the chief place of the trading centres of Kowiai, lies at the northern corner of a bay so protected by necks of land and a small island in front that the roadstead is safe. Ships can anchor close to land. On the shore, which is separated by marshy ground from the mountainous country lying behind, stand five large houses, two of the Rajah, two belonging to Arab traders, and a toko belonging to the Netherlands New Guinea Trading Company. The subjects of the Rajah reside in a couple of low huts. Here one is struck by the fact that much

is sparser than on the Onin Peninsula. The chief of the Onin Rajahs is that of Roombati. The interior of the Onin Peninsula is little



A NATIVE MASSEUSE.

populated, and, owing to the absence of fresh water, inhospitable. The mountains are steep and rocky, and the footpaths across them are difficult to traverse for a non-Papuan.

bird-of-paradise feathers, others again long-threaded rows of fruit stones or pips, or a string of teeth of a wild pig as a neck ornament. The numerous breast ornaments

consist sometimes of strings of cassawary nails, and then again of strings of fruit stones or pips, or pieces of leather. Their weapons consist of a bow and arrows, and a sort of cudgel, 5 feet long, made of rattan, with a round stone disk at one-third of the length. The arrows are finely worked and painted with various figures; as a tip they have a very sharp and pointed cassawary bone or nail, sometimes also a piece of hard black wood. The arrows themselves are a kind of cane.

The food of these savages consists of pork, sago, all kinds of tree fruits, such as coconuts, pisang and berries, also mushrooms and roots, a sort of tubercle fruit like a potato, and sugar cane.

PEOPLE OF BALI.

The greater portion of the native population of Bali consists of the Wong-Madjapahit, or adherents of Bali-Hinduism. The rest are for the most part Baliaga or natives converted to Islam, who, with the descendants of Javanese, Maduras, and Buginese, are called Bali-Islam. The last named are mostly established on the sea-coast. As regards the external appearance of the Bali people, there can be no question of a specific type; the Wong-Madjapahit has an appearance quite different from that of the Baliaga, whilst the residents of various parts of the island also differ from each other frequently in external aspect. Generally speaking, they are a fine, well-formed race of people, somewhat taller and more slender than the Javanese. The women, who, when young, are usually distinguished by a beautiful form, are, proportionately, more strongly built than the men. They are all characterised by surprisingly long arms and broad feet.

The chief food of the people of Bali is rice. The use of the flesh of the ordinary ox is prohibited, but not that of the flesh of the Indian ox. Pork is largely consumed. The ordinary beverage is water; it is true the use of palm wine and that of brem, an alcoholic drink obtained from rice, is known, and they not infrequently likewise drink arrack and other strong liquors, but drunkenness is a great exception. The use of opium has increased, notably during the present century. The ordinary games of the natives are known to the people of Bali; the wayang and ronggengs are not wanting; above all, cock-fights and games of dice are much indulged in. The great popular feast is the New Year's feast, which returns every thirty weeks and is celebrated with great solemnity. It is interesting on account of the numerous associations who conduct the feast and share out food, &c., to the members.

As regards the character of the Bali people, they are lively in temperament. The art of reading and writing is not unknown to a comparatively large number. They are also arrogant and even impudent at times to strangers, but possess a highly developed feeling of honour. Towards those who can make their superiority felt, they are, on the other hand, extremely servile. Attachment to the native soil is described as a principal trait. Frankness, passing in many cases into impudence, is coupled with little sincerity and fairness. They are in no way distinguished for morality. They are of an industrious character. Among their chief passions, gambling occupies a great place. They were formerly regarded as brave *par excellence*. Remarkable is the contempt for death, sometimes exhibited by their dooming themselves to death in unequal combat. As a sign of this, they dress themselves in white, kill their wives and children, and, armed with

a short lance, dash blindly upon the foe, and fight until all are killed to the last man.

A great influence on the Bali people was exercised by their religion, as among them, though in a coarse, degenerated form, various religious ideas are found which have their origin in Hindustan, and which prevailed on this island before colonisation from Java. Brahmanism is still partly known in Bali; a few Buddhists are also encountered, but Sivaism plays the chief part in official worship among the higher classes. The lower population is but little acquainted with this form of

exclusively is negotiated with the gods. The village temples, on the contrary, are intended to promote all that interests the community as a whole; on its behalf an appeal is made for the intervention of an invisible being, who must be induced to descend into one of those present, and through his mediation announces whether the moment is favourable for making sacrifice. This latter is carried out through the watcher of the temple, who is greatly respected among the people and is closer to them than the priests proper, the Brahmins. Finally, there is found in every



JAVANESE MAN WITH HIS BIRD (PERKOE TOET).

worship. Their religious practices consist in the propitiation of evil spirits, who, in the religious conceptions of the natives, play the greatest part, in the veneration of the place of origin of the family, and of the gods who possess power over the earth. They believe that a number of higher beings dwell on mountains, in trees and in valleys, in houses, burial places, and at sea. These higher beings are honoured in temples in the house, where everything relating to the family

village a temple of the dead, where Durga is the chief divinity worshipped, and where offerings are made for the purpose of obtaining recovery from illnesses, whilst those who wish to learn to practise magic spells and charms pass many nights there. On all sorts of occasions sacrifices are made; the Bali man needs but the very slightest inducement to go to the temple and protect himself against evil spirits. Even cock-fights begin with sacrifices.

One of the most prominent institutions in Bali introduced by Hinduism is the division of the population into castes, who, just as in Hindustan, are split up into sub-divisions. Above stand the Brahmins, who may marry a wife of every caste, whilst, on the contrary, it is not permitted for a woman of the Brahman caste to marry any one of a lower caste. The Brahman has a right to the title of *Ida*, which he retains even when, as is the case with most of them, he must seek his livelihood by industrial pursuits of all kinds, and even when he falls into poverty, an event which in no way affects the higher position occupied by him in relation to the members of the lower castes. Part of the Brahmins are priests, and are thus bound both to perform the service at home and also to conduct the public divine services at the cremation of the dead. They are also bound constantly to study the Vedas and Kawi literature, to instruct those who come to them, to announce the regulation of times and dates, and to sanctify weapons by marking them with mysterious signs. The priests have a great influence in religious matters on the population, and are the object of superstitious veneration, and from this fact they derive a number of advantages.

The second class is that of the *Ksatrias*, properly speaking the knights, less correctly described as the caste of warriors, as the foot soldiers are enrolled from the lower caste. In Bali, too, the entire population, if necessary, takes part in war. The *Ksatrias* are distinguished by the title of *Dewa*. The princes of Bali are, properly speaking, required to be selected from among them, but at present most of the princes originate from the *Wesjas*. The *Dewa* agoeng of *Kloengkoeng*, however, is a pure *Ksatria*. The third caste, the *Wesjas*, should properly carry on trade, agriculture, arts, and crafts, but at present the members of all castes take part in trade, whilst the principal among the *Goestis*—the generic name of the *Wesjas*—despise those occupations, with the exception of profitable trade. The great number of the chiefs and officers are elected from the *Goestis*, whilst most of the princes belong to them. The *Soedras*, who form by far the greater portion of the population, stand at the lowest stage; they have no characteristic name, but are addressed as "servant" or "person"—more politely as "father" or "mother." Although they are treated with contempt by the higher castes, and silently acquiesce in this, and are even exposed to great oppression by the princes and their followers, it cannot be said that there is any mutual antagonism between the castes. Specific classes, who, like the pariahs in Hindustan, are exposed to public contempt, are not found. The members of the various castes are not distinguished from each other or from the *Soedras* by dress or outward tokens, so that on meeting a stranger one is compelled to ask the name by which he must be addressed.

The dwellings of the Bali people of lower rank consist of low and small huts, made of clay or stone and covered with thatch; a small window, sometimes the door only, supplies the necessary air and light. A certain number of these huts, sometimes as many as twenty to twenty-five, are placed together on a farm, which has an oblong rectangular form, and is separated from the roads by high walls made of clay or brick, covered on top with reed. The roadways are full of ruts and holes in which the pigs wallow. The village is surrounded by high walls or fences; altogether they form an easily defended whole. Very narrow doors, on both sides of which a stairway eight to

ten steps high is fitted, lead from one room to the other. The *semah moten*, a small building made of red brick and covered with reed, is the sleeping place of the owner, with his wife and children. The *bale mandeng* is a wooden tent set up high above the ground, open on both sides, whilst the intermediate space is divided into compartments by benches. It is the place where guests are accommodated. Various other bales are near at hand. The kitchen, likewise a sort of tent, protected on three sides by a clay wall and above by a reed roof, is found in a remote corner, whilst the rice shed and buffalo shed are also erected on the farm. The dwellings of the mountain people, namely the *Bahaga*, are mostly erected of bamboo alone, whilst the bedrooms and kitchen are under the same roof. The farms are less spacious, but still more carefully shut off by high walls or thick undergrowth.

The usual mode of marriage among the Bali people is the purchase of the girl with the consent of the parents on both sides, the purchase price varying from Fl. 20 to Fl. 100, sometimes rising to Fl. 600. It sometimes

marry their daughters to a boy whilst still very young.

As a rule, the lower-class Bali man is satisfied with one wife; notables, however, frequently take a number of wives, whilst the Brahmins may select a wife from each caste and likewise from the *Soedras*. It is forbidden, on pain of heavy penalties, to marry a wife from a higher caste. The lot of the woman is an exceedingly unhappy one. The man may leave her to her fate as long as he pleases, may give her as a bond-woman to one of his creditors, and may divorce her, when she loses all claim to the children and returns to her family with one-third of the movable property. In some cases, she may apply for divorce, but then she receives nothing of the goods, whilst the man may demand the return of the purchase price. She is not much more than the slave of her husband, for whom she carries out the heavy work, with the exception of the field work, the care of the house and the children also falling entirely on her shoulders. When the woman brings sons into the world, there is some improvement in her lot, as she is then held in respect; but women who bear no children or girls only are regarded with deep contempt, and must pay heavily for it. This influences even the lot of the widows, who do not belong to the Brahman caste, as they, with all their belongings and their daughters, are the legal property of the prince, if they have no sons. This may be obviated, either by adopting a son or appointing a brother or friend as heir. The women who fall to the prince are sometimes raised to the rank of concubines, but frequently they are employed as slaves. The prince possesses the right to dispose of them in marriage, and even to place them among the public dancing girls, who are in the service of the prince and must pay over to him what they earn. Although the princes have not originated from the higher classes, all subjects are exposed to their will, the lower classes of the people, of course, in the greatest degree. The princes stand, as it were, above the law, and need not bother about the stipulations laid down in the village regulations. With their numerous followers and wives, they hold their residence in the *poeri*, which are only distinguished from the ordinary farms by greater extent. Among the court officers the highest is the officer who attends to the chief's correspondence and the necessary sealed letters for sale and purchase. The next is a sort of private secretary and treasurer. The administration is usually conducted by district chiefs elected by the population. They often live in the residences, but it is not seldom the case that several are appointed in one district, one over every caste and even over particular families. They are, in their territory, as it were, small princes, who settle many small quarrels, and often take upon themselves the settlement of important matters.

Immediately under the district chiefs are the village chiefs elected by the population, subject to approval of the district chiefs; the will of the gods must also be inquired through the medium of the temple watcher, who makes known the name of the elected at a solemn assembly. Lesser chiefs are added to them; very often a council of elders holds the power of the chief in check. In many villages, there is a very strong bond between the members of the village association, who enjoy certain advantages, usually consisting in the use to a certain extent of cultivable ground. The number of people, who are all equal, is limited in such villages; together they deal



JAVANESE MAN FIXING HIS HEADKERCHIEF.

happens that the lover serves the parents of the girl for a time in order to pay off the dowry. Again, the abduction of the intended wife, with her consent, frequently occurs, and is becoming more and more customary in many parts, whilst the abduction of the wife by force and against her will is not infrequent. The man who has made himself master of a woman by abduction, with or without her consent, must remain in hiding until the parents give their consent, and the fine or purchase price is paid. If the parents continue to refuse, there remains the recourse of appealing to the prince, who will then pay the purchase price, and when this has been paid by the prince's agent, the marriage is lawful, and the married couple need not fear any prosecution by the parents of the wife, which they might, as long as the latter do not give their consent or the prince has not legalised the marriage. In order to protect themselves against abduction, when the wife is only kept some time and is then sent back for a lower price, parents frequently

with business, under the guidance of a council of elders. A characteristic of these villages is the possession of a long shed, in which are held the meetings of the members, and also the meals taken in common, which form a part of the great religious feasts. The guests of the village also find shelter in this shed. In another kind of village, which is probably of more recent date, the equality is not restricted to the original families established there, but extends to the late comers, and it is the rule that every male who is settled in the *desah* becomes a member upon marriage. Here there are few advantages attached to membership; there is almost exclusively individual ground ownership. It is true, all may decide in matters of interest to the *desah*, but, as a rule, the settlement of most matters is left to the village administrators.

In the Government countries, administration has been left in its old form as far as possible. The district chiefs, who govern the native Hindu population under the orders of the European officials, are appointed by the Governor-General at the proposal of the Resident, who consults the population in question in accordance with the institutions of the country. The village administration is here left intact, and the population has retained possession of its own religious laws, customs, and institutions. Notwithstanding this, a peace and prosperity unknown to independent states prevails here; the caste system has less influence; above all, because the heavy punishments fixed by the Bali laws for infringements have been modified and mitigated, whilst the arbitrary rule of the princes has given way to regular administration. The abolition of slavery, which still exists in the principalities, has been a blessing to the Government districts.

The population is chiefly engaged in agriculture, to which particularly great care is devoted. They excel specially in the cultivation of rice on sawahs laid down in the most skilful and practical way, whilst irrigation leaves little or nothing to be desired. To carry out these objects in the most advantageous way, the owners of fields irrigated by one and the same channel—denoted by the word *soebak*—combine with each other into an association governed by definite laws and regulations, which is under the supervision of a Government officer, but for the rest acts independently. It has its own administration elected from among the members, which settles everything relating to the *soebak* cultivation, maintenance of the water, canals, &c. Offences against the rules, no matter of what character, are punished according to the regulations. For the use of the water, which, according to the doctrine prevalent in these parts, belongs to the lord of the land, the *soebak* pays taxes, which are paid in kind. It may be stated, in passing, that similar associations are formed for other purposes, which fact imparts a peculiar character to the social and village life of the natives here.

In addition to sawahs, rice is here and there grown on what are known as dry fields, whilst in some places ruthless cultivation, after which the soil lies fallow for a long time, is practised. The production of this article of food is, as a rule, so great that every year considerable quantities can be exported.

Other products of interest as regards export are coffee, tobacco, cocoa, and indigo. All food plants, in addition to rice, are grown, *djagoeng*, with tuberous and husk fruits, the latter in many varieties, and sufficient for the needs of the population. It is open

to no doubt that agriculture in Bali could be still further developed if direct Government administration could be introduced everywhere. Proof of this is furnished by the divisions of Boeleleng and Djembrana, where of late years the production of various plants has considerably grown, and the uncultivated soil is in process of constant shrinkage. In the remaining tracts, however,

considerable. This is particularly true with regard to the Government lands, where traders can obtain the necessary help and protection. The articles exported are hides, coffee, tobacco, coconut, or cattle, whilst the imports are chiefly iron and steel work, gambier, manufactured articles, gold and silver work, earthenware, so-called *kepeng* or Chinese coins, and opium.



1. ROYAL BALINESE WEDDING GROUP.

2. BALINESE WOMEN GOING TO A FEAST CARRYING OFFERINGS FOR THE HOST.

where the population is still partly left to the mercy of the princes and chiefs, and no one is really sure of his property, everything continues on the old footing, and there has been rather a retrogression than progress in the department of agriculture and industry.

Trade in Bali, both within and without the country, may be described as fairly

The above-named coins here still form the usual currency. Their value rises and falls. At present 1,100 to 1,150 of these "*duten*" or *doits*, as the small coins are termed in Dutch, are equivalent to a Dutch florin. Gold currency and Dutch florins are also gladly accepted by the native traders. The greater part of this coin, however, finds its way to

the gold and silver smiths, who melt it into armlets and leg ornaments.

We must now devote one word to an outcome of Hinduism, the burning of the dead, which is strictly enjoined upon all castes, and is regarded as one of the first conditions for admission to the abode of the gods. Custom also requires that the ash should be thrown into the sea or removed in some other way. Only one or two classes of people, among them those who have died of small-pox, are excluded from cremation. As there is no fixed date for the ceremony, and the whole thing is attended with enormous cost, it frequently happens that bodies lie for years in the shallow grave before they are placed on the funeral pyre, and then not infrequently five or ten are burnt at once to save expense. It sometimes also

happens that the grave cannot be found again, or that the mortal remains have entirely perished. In this case, the law allows the burning of the deceased merely in effigy, for which purpose a small figure cut of lontar leaf may be used—the method adopted also for persons who have died outside the islands. Princes, like other persons of any note, to whom the cost forms no hindrance, keep their dead at home until incineration can be carried out at leisure. The bodies are then protected against decomposition by all sorts of means, and are placed in a specially erected tent on the family estate. As soon as the many formalities have been fulfilled, which usually takes weeks, the body is placed in a special receptacle, and conveyed with much ceremony to the place where it is burnt. The receptacle

mentioned is a high pyramidal construction, consisting of larger or small numbers of superposed compartments; it is chiefly made of bamboo and rattan. It is fitted with ornamentations which clearly indicate the rank and caste.

The custom of suttee, formerly prevalent in Bali, *i.e.*, widows following their princely husbands by being burnt alive, has been abolished. The most heroic way in which this was practised was for the victim, after stabbing herself with a kris, to jump into the burning pyre near to the corpse. In this way, she gained a title of honour, which is higher than that given to women who simply threw themselves alive on a second pyre, for she in this way, it is said, displayed "her faithfulness unto death."

MANNERS AND CUSTOMS IN JAVA.

BY C. THIEME.

BEFORE dealing with the general population of Java, the ancient tribe of Tengarese (Wong Tengar or Highlanders) deserves notice.

They live at the extreme east of Java's mountains—the Tengar group. At the end uprises one of the most remarkable of Java's forty-five volcanoes, the Brama or Bromo, called after the god of the Hindus. For although the Tengarese never submitted to the Mahomedan invaders, they adopted something of their predecessors' religion, without altering radically their own ancient nature-worship. Bromo is their holy mountain. Once a year, they gather round its top, their high priest throwing offerings into the crater. There probably has been a time when human sacrifices were offered to the grim, inaccessible, and harsh god, whose vehement powers they witnessed. A legend says that the primeval ancestor of their race sacrificed the youngest of his twenty-five children—a boy—to the powerful "burning mountain"; and even now representatives of the Sultan of Djocja throw new clothes—human beings in effigy—into the craters of the Lawu and the Merapi volcano on the anniversary of His Highness's accession.

Tengarese houses are so built that the front door always faces the mountain, and they are buried, their head pointing south, to the Seméro volcano, the "Heaven Mountain," where the god Brahma himself resides, but where they arrive only after passing through the purgatory of the Bromo volcano.

When they are married by their "duku" or holy man, dolls of flowers, leaves, and rags partake of the festival. These represent the dead ancestors, are duly honoured by all the living members of the family, and afterwards returned to the Heaven Mountain by being burned. If a man has two wives, each lives in a separate house. They are an agricultural people, but the climate does not suit the cultivation of paddy or rice, and they are thus confined to earth-fruits. Of these the Tengarese onions are very famous, so much so that a legend explains how the first seeds were given their primeval ancestor, Kjai Dadap Putih, by pious hermits, who received them in a miraculous way from heaven itself.

The women till the ground; the men generally carry the products to the market-places in the plains, and keep the roads and bridges in order.

Since the Dutch Government put an end to the persecutions the Tengarese suffered from the Mahomedan Javanese, they mix more freely with the Javanese and are more



A WOOD CARRIER.

and more influenced by them. Only in comparatively few desahs are the ancient customs maintained in their entirety, and even the number of people attending the annual Bromo festival grows less and less under the Mahomedan influence, although the Tengarese population itself steadily increases in numbers.

It is not necessary to devote much space to four other tribes in Java, who cannot be considered to have been assimilated by their more civilised neighbours.

The most interesting of these are the Badjus. They live in the forests of the Kendeng Highlands in Bantam, the western part of Java. They retired before the Arabs, refusing to become Mahomedans, and it is possible that they got their name from the invader, who designated as "Bedouins," or dwellers in the desert, all tribes who retired before the religious persuasive power of the Mahomedan swordsmen. The Badjus are polytheists, and assume that their gods live south of their own settlements. Nobody is allowed to penetrate into that sacred region. They go there sometimes on pilgrimages, but if they meet a human being on their way, they return to their desah. They neither admit strangers to their own dwelling places, nor may their women and children leave their hamlets, and their high priest is confined to the innermost or sacred hamlet. This hamlet may never contain more nor fewer than forty families, and only those living in the outer hamlets come into some touch with the outer world, still using "middle-men" for transactions with that world.

They live as they did when they retired from that world, use no horse or buffalo, sleep in no bed. Their chastity is well known, and on the whole they have very pure morals, whereas stealing was never known to happen among them. Their whole mode of life is strictly ascetic, they deny themselves every pleasure or comfort, and in their songs only bemoan the lost greatness of their race. As Veth says ("Java" *iv.*, p. 80): "They are more remarkable by the things they leave undone, than by those they do; they are a 'negative tribe,' and as they are exceedingly quiet and peaceful, the Dutch Government do all they can to prevent interference with their customs."

One very remarkable fact is that, although the Badjus have been intermarrying for centuries, they are thoroughly healthy and vigorous, lunacy, epilepsy, cretinism, and similar afflictions are hardly known ever to occur among them.

The great difference between the Tengarese in East Java and the Badjus in West Java is that the former retained during all these centuries the remnants of the pre-Hindustanic Madjapahit civilisation, whereas the latter left the world without any civilisation at all and are still without it. Both, on the whole, are in the same condition as before.

The three other tribes—Kalongs, Pinggirs, and Gadjahmatis used to be nomads, but have now settled down. They apply themselves to minor professions, are not held in very high respect by the other Javanese, and have nothing of the archaic and picturesque peculiarities of either the Tengarese or the Badjus.

GENERAL MANNERS AND CUSTOMS.—One of the things that strikes Europeans arriving in Netherlands India is the extraordinary use the Javanese makes of his feet, or, rather, of his toes. Like all Orientals, accustomed to go about bare-footed, the big toe is well developed, and, assisted by the next two toes, quite as useful as our thumb with index and middle finger. It is nothing for him to pick up a coin from the floor with his toes, or to keep a board in position when planing. When sailing, he "handles" the sheet with his toes, thus having both hands free for other manipulations. Dutch sailors frequently speak of the "human hands" of the Javanese, referring to his feet as "monkey hands," that enable them to climb with astonishing quickness into the highest cocoa trees, and to move along the side of steep ravines and similar dangerous places.

Javanese have very fine black, but rather coarse, hair, possibly because they shave the heads of their children from the second year onward until the boys are circumcised and the girls are married. Only two locks are left on the boys' heads to grow into long tails, whereas a small tuft on the crown of the head is all that is visible on the girls' heads. After marriage, both the tuft and tails disappear, the hair being allowed to grow as long as it likes.

Another custom, also practised by other Malay races, is to file down the teeth, giving these all sorts of shapes. They make themselves still uglier by painting both teeth and lips entirely black. In later life, when they take to chewing sirih (a sort of pepper, whose leaves or fruits are chewed with gambier and lime, gambier containing astringents), the lips get a red colour, and enthusiastic native poetical admirers of Javanese female beauty sing of their lady's mouth as a ripe pomegranate burst open and showing the black rips.

DRESS.—The less civilised Javanese in the islands do not wear much in the way of dress, but the more civilised are no longer satisfied with a simple girdle of some bark or a piece of cotton round the hips. The women wear their tapih, the men have over their trousers, a kam or békéd, as these garments are called, from the hips to the ankles. The sarong (=tube), resembling the European petticoat, has more recently come into use.

The men never go about bare-headed, women always, unless they are working in the fields. In that case they wear a straw hat (a tjapil, or tudung), generally borrowed from their husbands.

Most Javanese of both sexes, even those in high positions, prefer to leave the upper part of the body bare, and hardly ever put anything on when they are at home by themselves. But otherwise they wear a jacket (klambi, or badju). Some Javanese have nothing underneath their badju, and show their bare breast, others have a sort of tight

fitting shirt (badju dalem) underneath. The badju of the women is nearly always closed round the neck; the sleeves are longer than those of the men's and are buttoned up round the wrist. Other races have the sarong long enough to close it over the breasts.

Malays of both sexes of Sumatra and Java frequently use a slendang, a narrow piece of cloth, 6 feet long, worn in all possible manners, round the head, round the waist, across one of the shoulders, or, if Europeans be present, so arranged as to cover the upper part of the body. The slendang is also frequently used by mothers for carrying

The colours used for the vestments differ in the various localities. Dark blue is very popular for the badjus, but the nether garments, the békéd, and tapih, are rather more gaily coloured. This colouring used to be very generally done by the batik process.

HOUSE BUILDING.—The less civilised tribes, the greater the risk of seeing their houses attacked and raided, and the greater also the necessity of building them on high piles. The nearer the earth, the nearer to law and order. The piles under the houses of the Dayaks of Borneo are about 18 feet high; in East and Central Java they are



1. NATIVE WOMAN WEAVER.

2. NATIVE WOMEN SPINNING KAPOK (COTTON).

their baby or the goods they take to the markets.

Ornaments are very popular; they are worn in the ears, round the neck, the arms and the fingers, the legs, and women of one tribe have toe-rings.

The Javanese do not trouble so much as the Papuans about adorning the hair. Leaves and flowers are sufficient, and especially the melati and tiampaka, with their exquisite scent, are used for that purpose.

simply built on the level ground. In West Java, such piles as are used are probably mere remnants of old traditions and customs; as a rule, their height is only 3 feet, and the space underneath the house is used for hen-coops, or similar peaceful purposes.

The houses are made of bamboo; they have no windows, and the door is simply a kind of slide, that is pushed on one side, if one wants to enter or to leave the house. In front of the cottage there is a sort of open

shed, a slightly elevated verandah, covered by the protruding sloping roof of the house itself. It is used as a living room, and the lady of the house may be generally found there weaving and batikking, or engaged in some other domestic work.

Within the house everything is, of course, dim and dark, even in the day time, for the sunlight can enter only through the rents, crevices, and clefts of the bamboo walls. In the evening there is a small oil-lamp, or a bit of twisted cotton in a little dish filled with oil, placed on top of a bamboo stand.

The principal piece of furniture in the house is the *balé-balé*, a couch or table on short legs, large enough to afford sleeping accommodation for all the family; a cotton curtain separates this "bedroom" from the rest of the house. Those somewhat

The house is surrounded by fruit trees, whose large fan-shaped leaves keep away the intense heat; and there are numberless *melatis*, *tjampakas*, and *kambang-tandjungs*, pretty white and deliciously smelling flowers that women and girls love to wear in their hair.

The farmyard or garden also produces betel, the pepper-plant used for chewing, *sirih*, and the *pagger* coffee of whose leaves the Javanese makes his *koppie wedang*, his inland cup of coffee, by simply pouring on boiling water.

The smaller houses are cheap, of course, and £2 10s. is sufficient for buying one. Their construction is, moreover, so simple that removals can be effected in a single day. The house is taken to pieces in the morning, and is again fit for habitation on some other spot before nightfall.

The younger children are fed by the mother, who stuffs them as if they were sausages; they seem to thrive on it, although these little ones all show the curiously swollen "rice belly," in consequence of this stuffing process.

The "dry cooking" of the rice is done in a simple way. The rice, put in a conical basket, is placed, the thin end downward, in a water-kettle only partly filled, the lid of the kettle also covering the basket. The boiling water cannot touch the rice, but the steam does, and in this simple manner the food is prepared, without any danger of having it burnt.

This simple diet does not spoil the Javanese's taste for sweetmeats and other dainties. There are everywhere small warongs, a sort of stalls, where the people



BATAK DANCING (SUMATRA).

better off have larger houses, with several rooms and bedrooms, according to the necessities of the sexes and the age of the members of the household. Sometimes there is a small shed at the back of the house for cooking purposes, although this part of the housewife's duties is frequently attended to in front of the house, a fire being laid on the bare ground.

At the end of the farmyard a barn is placed for storing rice, and if the lord of the manor is well off, he also has a stable or *kandang* for one or more buffaloes, and the clumsy, but picturesque *pedati*, or Javanese cart, with wooden disks as wheels. His plough, harrow, and other agricultural implements are also put away there.

Does he possess a horse as well, he simply tethers it to some bough under a tree, or, in case of exceedingly bad weather, next to the house, under the sloping roof.

FOOD AND TABLE MANNERS.—Simplicity is also the chief characteristic of the Javanese way of living. The *balé-balé* is their bed, a large chest on castors their wardrobe, the floor for dining-room table, sideboard, and the rest. At dinner-time, the rice is served up in small baskets, *wakools*, or in an earthenware dish, and placed on a mat in the middle of the floor. Every member sits down round it, with crossed legs, using a large *pisang* or banana leaf as plate.

Every one gets a helping of rice, cooked dry, with sambals, composed of rasped herbs, a good dose of red pepper, *tjabe lombok*, or red pepper only. Sometimes a bit of fried fish is added, and, on rare occasions, a fowl cooked after the native fashion. Spoons and forks are unknown quantities, and each takes some of the rice between the thumb and the first two fingers, and contrives to throw it into his or her mouth.

may buy any fried or otherwise prepared nice tit-bits.

There are also ambulant warongs, whose proprietors carry two large hampers on a bamboo bar, in which hampers the food is being kept hot. But the other warongs are the real thing, and are also used as clubs. They have their own regular customers assembling at particular days and hours in order to practise the fine art of gossip.

In this connection, two other peculiarities may be mentioned. The first is that when a Javanese peels an apple, he turns the blunt side of the knife towards himself; Europeans face the edge. And when he drinks water from a jug, his lips never touch the mouth of the jar; he holds it up at some distance, and lets the water run into the open mouth without ever choking. This method may be a sign of

cleanliness, for his mouth and lips are always exceedingly unattractive in consequence of a continual flow of red juice, caused by the chewing of sirih. It is probably for the same reason that Javanese never kiss; for whoever saw the mouth of a sirih-chewing beauty understands that even the most frantic lover cannot bring himself to touch those uninviting lips.

NURSERY CUSTOMS.—As soon as a child is born, the native midwife—who knows it is quite superfluous to pay special or any attention to the corset and garterless young mother—places the baby on a "tampah," in order to deliver it of moral impurities. The "tampah" is a round bamboo mat, with low raised rim, used to separate the rice from its husks, by moving it up and down. By a quick turning movement, the rice thus cleansed is further separated from the unhusked grains. This centrifugal method of delivering the young Javanese from sin is applied vigorously, and as soon as this symbolic purification is over, a physical cleansing follows, in the form of a bath of perhaps 15° Centigrade. After this, the poor thing is scantily dressed and allowed to sleep a while.

One of the things native midwives are particularly careful about is to prevent the child from touching earth; it would be absolutely fatal for a human being to touch earth before having partaken of the fruits it produces.

The next experience the newly-born has to go through is the *thatah*, the massage, first applied daily, afterwards on alternate days. Every part of the body is taken in hand by the midwife, the head is squeezed and pressed and turned about, legs and arms and even toes and fingers of the poor little thing are bent, turned, beaten, and nearly torn out of the sockets. And all this to make the children nimble and supple, although children born in India from European parents are quite as nimble and supple, without being submitted to such cruel treatment.

How Javanese mothers stuff their little children as if they were sausages has already been mentioned, and the methods on this point are equally remarkable as those of the midwives just dealt with. Although they suckle their children for a tolerably long time, Javanese mothers supplement that food by the inevitable rice, as soon as the babies are about four or six weeks old. They first prepare a sort of porridge of well-cooked rice and a certain sort of "pisang" or banana, not all bananas being thought suitable for sucklings. They fill half the shell of a coconut with this porridge, and put it with another, filled with water, by their side. They now put the baby between their stretched legs, fastening it to them by means of their "slendang," so that only head and mouth are free. If the child does not open its mouth to cry, the mother, with a sweet smile, puts some porridge on the closed mouth. But its uncomfortable position makes the poor baby cry soon enough, and down goes the porridge. The mother does not wait until the child has swallowed the first lot, but shoves in more and more, and the louder the little victim yells, the wider the mouth and the throat are opened and the quicker the rice-porridge disappears. Should the porridge be too thick to glide down easily, and should the symptoms of suffocation grow rather alarming, some water is poured into the mouth to put it right. If the child should die during the process, nobody blames the mother, but calls a youngster extremely stupid who can die when just being fed.

The result is that as soon as a Javanese child has learned to walk the whole body becomes emaciated, in consequence of the foolish diet; only the belly is swollen to an enormous extent, and the so-called "rice-belly" is a usual phenomenon with Javanese children, who do not get over it till the age of twelve or fourteen years.

Toys are almost unknown to the Javanese child; sometimes the father catches a bat, a bird, or a big beetle, and ties it to a bit of string for his offspring to play with, but happily the animals soon succumb to the rough treatment of their youthful owners.

At the age of seven years, the boys are already expected to help their father by looking after the cattle; they become so-called "meadow-boys." Gradually, more important work is entrusted to them, until they marry and ultimately become, in their turn, the heads of families.

HOUSEHOLD AND HOUSEKEEPING.—Such a head of a family is, as a rule, a very bad financier, careless, and improvident. This is doubly bad for him, because he gets money only once a year when he sells his paddy

clothes, he used for sacrifices, "slametan," and procure necessities for household purposes. In order to make it last longer, they mix it for their meals with maize, and gradually maize becomes the predominant partner, and ultimately the sole constituent of the food.

At last the whole family eats but one meal a day, even of the maize, and this goes on until the west or wet monsoon brings rain again. The prospect of a new paddy harvest is then near enough to enable him to borrow again; so that he, his wife and children, may have food until the hamper shall be refilled and the days of want and hunger forgotten.

GIRLS AND WIVES.—The *desah* woman's life is not cheerful; joys are rare, sorrow and care ever present from her earliest youth. At the mature age of six, she already serves as "babae" (nurse) either for her own little brothers or sisters, or the babies of an elder sister. Soon other duties and housework are added. Her only amusement is to sing monotonous songs with other little girls, songs of which they do not understand a word, until they are growing up, and discover



LOMBOK DANCERS.

or rice. Some have a chance to reap two harvests a year, but it is not the rule.

If he is not well enough off to build a separate shed or barn for his rice, he keeps it in the house in a huge hamper, 6 feet high and about 4½ in diameter. That is to say, this hamper is not big enough to contain his entire harvest, but holds only the remnant left, after he has delivered a great part to the village chief, the priest, or "modin," or some neighbour of position, a *hadji* or *kadji*, that is a Javanese who has made the pilgrimage to Mecca. He is sure to have borrowed from either of these. But by far the most tremendous creditor is the Government, to whom he owes a considerable sum for rent.

"So long as the paddy in the hamper lasts, the *desah* man knows of no care, and fully enjoys the first meal of new rice, prepared by his wife, with "sambals" and vegetables, and, on rare occasions, accompanied by some microscopic balls of salt fish.

But the paddy does not last long, for it has not only to feed the family, it must buy

that they are so brutally erotic, that they dare not sing them any more. But they are taught by each generation of young girls to the next by word of mouth, and in that way live on.

She has no more toys than her brother, but the flower of a banana and some rag are sufficient for her to imagine that these two form a doll, and this doll is her child.

When ten years old, her parents take her with them to the sawah, the rice-field, where she may assist with planting. Only later, when she is old and wise enough to understand fully the tremendous importance of the paddy as the supreme means of subsistence of the population, is she allowed to help at harvest as well; she will then be careful not to waste a single grain of the precious product.

This period of relative liberty, however, is quickly succeeded by one in which discretion and modesty are constantly being preached to her. Loud speech and laughter are indecent and unbecoming. The marriageable

girl is expected to be shy, coy, bashful, and to avoid anything and everything that might draw a man's attention or excite his passions.

After some time, she is sold or presented to some young man, whom she may or may not like, or even know. The purport of marriage is either to strengthen the bonds between already well-to-do families, or to provide the father of the youthful bride, if she has no brothers, with a son-in-law fit to assist with the farm work. For the son-in-law goes to live with his wife's family, until she has reached the years of discretion at which she may live with him in a house all their own.

There is no engagement during which a

cerned about their dolls. Bad hygienic treatment after the confinement, hard work, and partial starvation cause a speedy decay. After her second confinement, beauty disappears, and when she is forty-five she is entirely done up, absolutely wasted. And yet these women go on, century after century, to prepare their own daughters for the same dull, dismal, disappointing existence. It is not even enlivened by divorce court proceedings, whose exhilarating emotions intensify so much the life of some of the more civilised races. A divorce in Java is the dullest affair thinkable, being as easily obtained as a dog licence in England.

MARRIAGE.—As already stated, there is no engagement time, with sanctioned love-

father, that he may arrange for two others to meet them. These clerical ambassadors usually bring presents, sirih, tobacco, gambier, fruit, &c. The four settle the dowry, the number of ear-rings and other presents the bride is going to have.

Three days later, the bridegroom's father asks leave for all female members of his household to call upon the bride. The two priests accompany the procession, which is received by the bride, attired in gorgeous garments, and supported by two old women. Each of her guests offers her a present. After the reception, a dinner is served, of which a goat, fowls, and "sambals" form the more substantial items, whereat the bride herself waits upon her prospective relations.



WASHING DAY.

youth and maiden are given every facility to meet and to get to know each other. Western men feel the same burning, violent passion for the opposite sex as Orientals. They are educated, however, in far greater liberty, the result being self-control and self-restraint strong enough to entrust them with the keeping of each other's, and thereby their own, honour.

Very soon after the marriage the young wife becomes a mother, often at an age at which European girls are still deeply con-

making as Europeans know it. But this does not mean that Javanese boys and girls get married at a moment's notice. The preparations leading up to marriage are circumstantial enough.

First, confidential ambassadors call upon the prospective bride's parents, vaguely sounding them about dowry and other business matters. If these preliminaries end satisfactorily, further details are arranged by a couple of priests, sent by the bridegroom's father, who announce their visit to the bride's

After a month, the bridegroom's father asks leave for his male relatives to visit the bride, and from that date the nuptial arrangements begin in real earnest. The first task is to collect the dowry, and although most marriages are timed to take place in the tenth and eleventh months of the Mahomedan year—the "sjawal" and the "dzoel-kleedah"—when the paddy or rice harvest is over and money ample, it takes as a rule about three months to be ready with that dowry.

At last the bride's relatives are ready, and

come to offer it in a grand procession. All male relatives and priests join it, carrying two immense dolls of rattan and quaintly dressed—a kind of Gog and Magog—in each of which is hidden a man, who plays all sorts of pranks and provides the fun. Buglers, gamelan and anklong players, two old women in white, the one carrying the betel-box, the other a water-jar, precede the real thing—a number of men carrying the dowry in an open tray. The bride graciously accepts the dowry through her father's hands—a sort of giving away—and expresses her thanks. A grand meal concludes the day, and the bridegroom's procession returns—a feast without Hamlet, he being absent.

Two days later, the happy couple and their parents appear before the panghulu, the chief priest, who, by simply reading the marriage service, unites them in holy matrimony. But, for the present, this entitles the bridegroom to nothing more than a call of a few minutes at the house of his parents-in-law to pay his respects. Only a month afterwards he comes to stay. Spacious sheds have been erected, musicians engaged, a huge dinner is prepared, of which a karabou or Javanese buffalo is part. Everybody sends presents, the priests chant and pray the night before, and all have dyed their hands with a red ointment (patjaram) to frighten the bad or hostile demons away.

At the bridegroom's house, this important day is opened with a huge meal, and thereupon they form the same sort of procession, only grander and more numerous, than when the dowry was transferred. This time the bridegroom is the central person. He rides a gorgeously harnessed horse, with silver head-stall, is himself beautifully attired, the same as his two pages, one of whom carries the silk pajong, or sunshade of honour, over the bridegroom's head. Drums (rabana), religious chants, European and Javanese bamboo instruments (anklong), combine with bugles and cymbals to produce a festive noise. And numerous red and white silk flags are waved, so that not only the ear but the eye as well may rejoice and enjoy the beauty of the occasion.

As soon as the bridegroom arrives, his mother-in-law throws rice and coins on his pajong—symbols of fertility and prosperity, the first of which ceremonies is also in use in some Anglo-Saxon countries. He now alights, and kneeling before his parents and parents-in-law receives their blessing.

Two old women now conduct him to the bridal room, where, on a huge bedstead, amidst a multitude of pillows, bolsters, coverlets, &c., sits the bride.

Her slendang saga, a piece of coloured silk embroidered with gold, and her upper garment, the badju kaorong, worked in the same way, as well as her sarong of gold cloth and red velvet slippers with gold embroidery, are splendid pieces of native workmanship. Round the neck she has a golden chain, with lock of brilliant stones. In the hair, brushed smoothly and parted from the forehead, she wears a wreath (sundal blom) of flowers of thin wrought gold—"the silent goldsticks" (amas kaju mati). From this wreath protrude movable golden twigs, enveloped in silk, studded with diamonds at the ends, and on the right and left she wears bunches of golden flowers (sunting amas). Bracelets and rings adorn arms and fingers, in which she holds a silk pocket handkerchief and a bunch of keys, symbols of her responsibilities as a housekeeper.

For three days and three nights, the old women stop with them. They are hardly allowed to speak, and any advances the bride-

groom may make are left unnoticed by the coy bride. But even three days and three nights pass at last. The old women retire discreetly, and so do we.

HARVEST FESTIVAL.—The importance of the paddy harvest is so evident, that the harvest festival—the slamettan, a semi-religious feast like everywhere else brings all the inhabitants of a village or "desah" together.

It is celebrated at the house of the village chief, enlarged by pendoppoos, easily erected sheds or shanties. Every one of the villagers,

horns of the butchered animals are decorated with melati and kenanga flowers, the meat being prepared by the women. They cook and bake the whole day, and it is a curious fact that only the elder women chatter; the younger ones are "seen, but not heard." They smile only when a very good or rather risky joke is made. The men make little baskets for the offerings and mats upon which the food is going to be served; others give a finishing touch to the pendoppoos.

The offering baskets have the shape of dishes, a leaf of the banana tree covering



AN ITINERANT-RESTAURANT.

even the very poorest, contributes to the cost. Unkind spirits may have destroyed his paddy, fatalism prevents him from grumbling or still more from losing courage, and he is sure to bring something, if he has only some sugar, taken from the "aren" palm tree in the woods.

The entire population helps to clean and decorate the chief's house. Buffaloes, goats, sheep, fowls are killed ceremoniously by the village priest (modin), the heads and

the bottom; in it are put some rice and sambals, a couple of cakes, some herbs, some borch (a yellowish paste, used for dyeing), a little piece of menian (incense), and other less known ingredients.

The filling of these offering baskets is a matter of the greatest importance, and only old and experienced women dare touch them. The slightest mistake in their arrangement might raise the wrath of otherwise well-intentioned spirits, and excite unkind

feelings towards the *desah* in their ghostly hearts.

The festival itself begins with a performance of the gamelan, now and then enlivened by the shrill singing of a dancing-girl, who will shine later in the evening by twisting and turning her legs and arms. Towards midday, a procession is formed by nearly the entire population, to take the various offerings to their places. The two buffalo heads are carried before the people, one to be placed at the entrance of the *desah*, the other at that of the chief's grounds. And the offering baskets are deposited near the boundaries of the village, hung up at sacred trees, or placed at spots spirits are known to prefer for their visits.

As soon as the procession has left, the floor of the chief building is cleaned, and toompengs for the common meal are arranged.

These toompengs are rather formidable affairs. A matting of bamboo, covered with leaves of the banana or pisang trees, is laid on the floor. On it is placed a mountain of boiled rice; at its foot, five equal portions of the usual accessories. Near it is a basin containing water to clean the fingers of the right hand, the only one used for eating, using the left being dangerous and of evil omen. A kendie (jug) filled with drinking water is also near. For every five of the guests there is one toompeng; they sit round it in a circle, the distance between these circles being large enough to give every party ample room. As the toompeng is much too large to be finished by even a dozen sound eaters, the remnants are taken home by the villagers in handkerchiefs brought for the purpose.

All crawl to their places to the gamelan tunes, the music stopping as soon as all are seated. The chief now pronounces the oodjood or dedication, the modin listening in rapt attention, as if he had not heard it all his life. The latter then slowly and ceremoniously raises his hands to about the height of his mouth, turning the insides towards his face, the little fingers touching each other. All the others do likewise and then the modin says a long prayer, at the end of which the congregation utters a long-drawn powerful *hamien*.

The meal now starts, and it must be noticed that in eating the Javanese never use the full hand, but simply take some food between thumb, index and middle finger of the right hand, and therewith convey the food to the mouth.

The women go on baking and boiling things for the evening meal, and eat when they can snatch a mouthful here and there.

After the meal the hall is cleaned once more, and at about 7 p.m. the gamelan starts playing again. The dancing girl, now in her best finery, sings, followed later by other *tandak* girls, and soon their example is followed by all the young people of the *desah*, unless the district chief or *wedono* is invited. As a rule he brings a following of native and European officials, and as long as these eminent persons are present enjoying themselves, the poor *desah* people, who, after all, paid for the feast and had all the trouble, do not participate in the festivities. Etiquette forbids.

POPULAR AND COURT DANCERS.—The *tandak* or common dancing girls have very little to attract civilised people. They are, as a rule, of loose morals, dressed up in finery of poor quality, their gold, silver, and precious stones are all sham and paste. Their dancing involves complicated gyrations and posturing; their so-called singing is a monotonous moaning, wailing, and yelling.

They are generally accompanied by a man dancer (*biles*, *pontool*, or *banjot*), dressed in the ordinary fashion, but wearing a red peaked night-cap in order to look funny. On the whole, such a dancing performance reminds one of a Punch and Judy show, by grown-up people, instead of dolls. The songs they sing are rather equivocal, or have the clear tendency of throwing ridicule on the ignorant, rapacious, and lazy native and Arab priests. But whatever be their artistic merits or demerits, the Javanese like them, and are quite willing to attend such a performance for a whole night.

Entirely different are the dancers at the courts of the Soosoothoonan of Soerakarta and the Sultan of Djocjakarta.

Among the savage tribes like the Alfoors in the Moluccas, the Dayaks of Borneo, and the Bataks of Sumatra, dancing is merely the imitation of birds, wild animals, hunting, fighting, and the like. But a real Javanese dancer is quiet, dignified, melancholy, and, to European eyes, monotonous. At the two courts mentioned, one sees this peculiar dancing to perfection. It is performed even by the Emperor's daughters, or those of his nearest relations or favourite courtiers, and



A FRUIT SELLER.

it is nothing out of the way to see even some of the native rulers' wives perform the stately dances.

It is also a peculiarity of Java that only women dance and act, whereas on the other islands of the Malay Archipelago it is almost exclusively done by young men.

The ruler's dancers are *bedojos* and *serimpies*. He has nine *bedojos*, whereas the crown prince and great noblemen are only allowed to have seven. And it is only the ruler who keeps four *serimpies*. He may allow his *bedojos* to dance at the houses of his friends; the *serimpies* never perform anywhere else but at the court.

There is another difference. The *bedojos* dance some peaceful, sentimental story, but the *serimpies* show warlike episodes. They wear a kris, bow and arrows, a pistol, and a shield of peacock feathers. Neither sing when dancing, but the performance is opened by a good singer, who sings some story from a book, all the while both *bedojos* and

serimpies sit quietly. The song finished, either the one or the other group gets up—the two never dance at the same moment—and starts dancing to soft, sweet, gamelan music.

When the *serimpies* or *bedojos* are dancing at the court, not all the instruments of the gamelan are used, but only those producing the softest music. There is in the first place the Javanese violin with two strings, called *rabab*, then a flute, a horizontal harp, *tjemplong*, and soft brass instruments as the big and the small *pernanak*, *kendang*, *kethock*, *kenong*, *gong*, *gambang*, and *gendher*, the small *bonang* being added sometimes.

It is difficult to give an adequate description of this gamelan music. It sounds harmoniously and melodiously, and is especially sweet when heard at a distance.

The dancing of the *serimpies* usually lasts from one to one and a half hours, that of the *bedojos* a little longer. The dancing is certainly graceful. The dancers range themselves in a file, with hardly any room between them, and all make exactly the same movements to the music. These consist chiefly of contortions of the upper part of the body and the arms, turning and twisting in all sorts of ways. Their joints, like those of all Javanese women, are so supple, that without any difficulty they bend the back of the hand against the forearm, and the fingers against the back of the hand.

The lower limbs are scarcely used during this so-called dance. Only now and then do they step backwards, removing their train gracefully with the foot. All this is very different from the dancing of the *tandak* girls, who use their legs very much, not for dancing but for running around, and whose gestures often are indecent and equivocal compared with the graceful and decorous movements of the court dancers. But to the European eye it is all extremely tedious and monotonous. They only dance at great festivals—birthdays, marriages, circumcision, visits of the Governor-General, New Year, Queen's birthday. When on state occasions the native princes call upon the European high officials, they appear in their most magnificent attire, with a numerous gorgeously dressed suite, and they never fail to bring their *bedojos*.

When dancing, both *serimpies* and *bedojos* have the upper part of their body, their bosom and arms, absolutely bare, and these parts, like the feet, are made to look whiter by painting them with *boroh*, a liniment made of various finely ground scented woods, mixed with water. The eyebrows are shaved into a thin line. The hair, different from that of other Javanese women, is dressed in the so-called *hookelkling* by stretching it over a bamboo hoop, placed against the back of the head. In consequence the hair looks like a little upright board behind the head. The golden comb (*gazoldo*) studded with diamonds and other precious stones, in the form of a bird, has to the right a diamond hairpin (*mentoel* or *kembang gojang*). Two smaller golden combs (*tjonthoong*) are placed a little more forward, at the side of the head, on a level with the eyebrows, other leaf-shaped pins (*ron*) over a diamond rose *grompol*.

A fringe of hair (*prias* or *pates*) is stuck to the forehead, coloured very dark green, so as to look nearly black, with gold borders.

They wear in their ears the usual *soebangs*, large, heavy golden ear-rings, studded with diamonds, whereas they have a *kalong* round their neck, a golden chain, from which are suspended three golden disks, with embossed flowers and diamonds.

When not dancing, the *bedojos* wear a very small *pamekor*, a *badju* or jacket of silk or

velvet, with golden embroideries or narrow facings. On the hips it finishes in a rounded shape like a spencer. Their sarong, adorned with batik, is worn in a special manner, and round their waist they have the oodal, a narrow strip or ordinary silk, over a golden belt or a belt of facing always with a golden plate in the centre. Round their bare arms the bedojos have a number of gelang (golden bracelets).

The attire of the serimpies differs only slightly from the one described above.

The hair is combed backwards and fastened at the usual place, one half being bent to the

right, the other to the left, then tied together again and plaited into a tail (geboong kootjer); the space between the parted hair is filled with flowers, and covered with a net of melatis.

Their badju, made of velvet with golden facings, is slightly longer; it covers half the thighs, and is cut square. Round the left forearm is a wooden tube, nearly reaching up to the elbow, with shield of peacock feathers. The kris, usually with a golden sheath, is placed to the left of the golden belt worn round the badju.

The Javanese princes like to dress their

dancers in the costliest manner, and do not consider expense if they can buy them beautiful ornaments, jewellery, and clothing. Nor does their dancing lower their social standing, and if they do not already belong to the prince's wives, they generally marry into the ruling family, and their daughters have the same prospects. They are also in this way entirely different from the tandak girls or ronggings.

The following are the latest statistics of population in Java and Madura and in the Outlying Possessions:

I. JAVA AND MADURA.*

	Area in square geographical miles.	Europeans.			Chinese.			Arabs.			Other Eastern Races.			Natives.			Grand total, Dec. 31, 1905.
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	
Bantam ...	143.6	201	246	537	1,800	1,355	3,155	35	47	82	32	43	75	438,095	453,479	891,541	895,390
Batavia ...	211.7	7,092	6,743	13,805	49,117	43,103	92,520	1,509	1,293	2,772	179	98	277	980,105	1,010,783	1,990,928	2,109,352
Preanger Regencies ...	371.0	2,941	2,300	5,241	5,577	8,919	14,496	69	55	124	51	3	54	1,383,116	1,383,846	2,681,962	2,697,707
Cheribon ...	123.3	677	510	1,187	11,027	10,741	22,068	1,500	1,205	2,705	130	42	172	818,644	863,630	1,682,273	1,709,005
Pekalongan ...	100.8	1,073	842	1,915	8,779	7,085	15,794	1,190	912	2,111	22	24	46	972,730	990,720	1,963,450	1,990,280
Semarang ...	148.8	4,572	4,262	8,834	17,149	15,575	32,724	442	412	854	518	501	1,019	1,251,285	1,317,207	2,571,492	2,614,923
Rembang ...	135.2	668	462	1,130	8,643	6,105	14,748	329	307	633	—	—	—	729,872	750,425	1,477,197	1,496,798
Sourabaya ...	108.1	5,486	5,114	10,600	15,471	11,175	26,646	1,888	1,844	3,732	213	154	367	1,174,113	1,221,505	2,395,618	2,430,663
Paseroean ...	150.4	2,779	2,628	5,407	7,215	5,083	12,298	1,688	858	1,026	38	47	85	978,100	1,023,454	2,001,554	2,022,170
Besoeck ...	184.5	1,076	713	1,789	1,791	1,305	3,096	1,019	924	1,940	37	7	44	482,000	482,000	964,000	972,475
Ranjoemas ...	101.0	556	525	1,081	3,646	3,109	6,755	22	20	48	34	14	48	728,208	749,602	1,478,110	1,489,129
Kedu ...	96.2	1,341	950	2,287	7,133	6,085	13,218	99	82	181	7	3	10	1,143,587	1,174,400	2,322,987	2,338,683
Djoekarta ...	50.5	1,045	1,207	2,242	2,417	2,049	4,466	50	38	97	52	34	86	543,515	597,209	1,140,814	1,158,705
Soerakarta ...	112.9	1,755	1,586	3,335	6,013	4,658	10,671	199	138	337	282	135	417	777,051	800,045	1,577,096	1,603,696
Madon ...	100.8	682	848	1,530	2,512	2,257	4,769	14	0	20	35	22	57	667,266	675,540	1,342,796	1,349,472
Kediri ...	127.3	1,681	1,314	2,995	6,887	6,110	12,997	—	—	—	—	—	—	884,954	873,125	1,758,079	1,774,515
Madura ...	98.3	323	289	612	1,553	1,532	3,085	777	809	1,586	38	43	81	720,462	767,463	1,487,925	1,493,289
Totals ...	2,388.4	34,288	30,629	64,917	167,870	137,323	295,193	10,222	8,026	19,148	1,072	1,170	2,242	14,588,843	15,127,095	29,715,908	30,008,008

* With the exception of the Resident of Cheribon, all the chiefs of the district governments gave complete statistics of the population of private estates.

† The area of the islands which belong to some of the districts is also included.

‡ Fifteen Europeans (nine males and six females), living on private estates in the residency of Cheribon, are included in this total.

§ Included in this total are 1,870 Chinese (982 males and 888 females).

|| Included in this total are 347 Arabs (185 males and 162 females).

¶ Included in this total are 150,480 natives (72,386 males and 78,094 females).

** As the census of the population on private estates in the Denak division of the residency of Semarang was not taken, the number of such is not included in the figures given for that region. According to reports from the superintendents of the estates, however, the population thereon numbered 9,562 at the end of 1905. Of this total, 4,676 were males and 4,886 females.

†† The population of the districts of Bangkalan, Arosajai, and Sapoeloe, and the division of Bangkalan, are not included in these figures, as no reports were received. According to a report from the Resident of Madura, however, the native population in the three districts mentioned totalled 253,097 at the end of 1905, being 91,240, 76,506, and 85,351 for the respective districts.

II. OUTLYING DISTRICTS.*

	Area in square geographical miles.	Europeans.			Chinese.			Arabs.			Other Eastern Races.			Natives.			Native population in 1900.
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	
Sumatra's West Coast—																	
Padangsch (Lowlands) ...	322.1	918	904	1,812	3,037	2,761	5,798	134	78	212	617	504	1,121	200,273	193,215	393,488	354,653
Padangsch (Highlands) ...	409.6	541	470	1,011	1,039	533	1,572	17	5	22	19	149	345	453,611	448,482	902,093	842,688
Tapanochi ...	793.5	219	217	436	934	673	1,607	28	18	46	159	117	273	209,747	204,192	413,939	321,309
Bencoolen ...	443.9	233	125	358	1,748	588	2,336	14	10	24	35	1	36	193,275	98,240	291,515	161,165
Lempungsch Districten ...	533.3	92	51	140	878	308	1,186	60	43	103	2	1	3	76,888	75,192	152,080	141,364
Palembang (with Diambi) ...	2,520.7	414	294	708	7,404	1,844	9,248	1,241	1,712	2,953	143	73	216	308,739	381,520	789,259	792,140
East Coast of Sumatra ...	1,668.9	1,703	964	2,667	92,946	6,500	99,446	81	8	89	10,715	4,769	15,484	247,573	303,608	551,181	309,035
Atch and Dependencies ...	9,666	418	343	761	7,594	981	8,575	97	4	101	980	275	1,261	292,379	279,006	571,477	104,451
Rouw and Dependencies ...	770.4	134	87	221	15,802	2,599	18,401	4	1	5	105	19	124	46,350	49,005	95,355	71,694
Bangka ...	210.4	106	148	254	317	32,092	32,409	145	116	261	28	7	35	38,703	35,150	73,853	16,600
Biliton ...	87.9	81	53	134	1,750	796	2,546	12	4	16	3	—	3	10,430	17,751	28,181	36,858
Western Division of Borneo	2,636.9	186	194	374	26,513	18,835	45,348	716	629	1,345	331	202	533	201,933	196,399	398,332	399,499
South and East Divisions of Borneo ...	7,412.3	543	395	938	4,715	2,439	7,154	96	833	1,799	186	27	213	375,735	369,797	745,532	707,411
Celebes and Dependencies ...	2,333.3	782	700	1,482	3,449	2,310	5,759	222	166	388	95	26	121	205,610	202,140	407,750	446,615
Menado ...	1,043.1	676	588	1,264	3,792	2,114	5,906	498	151	649	47	7	54	212,502	215,591	428,093	423,610
Ambonia ...	934.6	1,085	1,117	2,202	1,683	270	1,953	459	416	875	62	16	78	149,221	145,245	294,466	271,484
Ternate and Dependencies ...	8,369.5	219	278	497	587	319	906	211	157	368	12	—	12	59,127	56,505	115,632	133,770
South New Guinea (capital, Marauke) ...	—	25	10	35	44	11	55	—	—	—	4	—	4	258	135	393	—
Timor and Dependencies ...	899.4	125	124	249	999	651	1,650	200	113	313	8	1	9	157,621	148,948	306,569	306,569
Bali and Lombok ...	191.1	72	47	119	1,284	523	1,807	350	345	704	107	36	143	24,714	258,048	282,762	282,762
Totals ...	32,397.5	8,631	7,362	15,993	211,200	150,900	362,100	5,434	5,000	10,434	13,808	6,230	20,128	3,702,095	3,601,557	7,303,652	—

* Including 131,500, 11,703, 122,093, 86,200, 4,588, and 610,000 respectively. These figures are only approximate, however.

† Not given.

‡ No total given, as the figures are incomplete.



INNER WALL DECORATION, FORTICO, CHANDI MENDUT.

ECCLESIASTICAL.

DUTCH PROTESTANT CHURCH AND MISSIONS.

BY BARON VAN BOETZELAER VAN DUBBELDAM, *Missionary Consul.*

WHEN the small Netherlands, in the middle of the Eighty Years' War with mighty Spain, had discovered the sea route to the Indian Archipelago, and great treasures gradually flowed into the country by means of the fleets equipped and sent thence, the war against Spaniard and Portuguese in those distant regions was conducted with such success that these enemies were speedily driven from the field. An entirely new territory, with millions of inhabitants, was thus brought under the sway of Holland. The fact that this coincided with the prolonged and terrible struggle in which Holland had expended blood and treasure for freedom of faith, and in which Protestantism penetrated deep into the life of the people, proved likewise not to be devoid of great importance for the distant regions themselves. In the first place, it was inconceivable in those days that so many Dutchmen should go to the Indies and remain there without provision for the practice of their faith. On all fleets which left for the Indies, clergymen went over, or if these were not to be obtained, they were replaced by "sick visitors," a sort of evangelists who did not administer the sacraments, but for the rest often completely took the place of a clergyman. Various pastors and also "sick visitors" remained in the Indies, however, in order to gather their countrymen settling there into Church congregations. Wherever the armies of the East India Company were victorious and a fort or trading office was established, pastors were likewise speedily appointed. In 1615, we already find in the fort of Jakatra, at the place where a few years later Batavia was to rise, a clergyman

(Adriaan Jakobszoon Hulsebos), who, amid the long and dangerous siege of the fort, contributed no little to maintain the courage of those who manned it. In the same year, we already find some pastors in the Moluccas as well.

It is remarkable in this connection that, immediately after sending out these first clergymen, it was contemplated not only to provide for the religious needs of Dutchmen in these distant regions, but also to convert the millions of heathens and Mahomedans for whom the Church felt itself responsible, because by God's guidance they had been placed under Dutch sway. The first inducement to this was that the bold invaders on their arrival already found some thousands of Christians among the native population, as the fruit of the zealous work of Roman Catholic missionaries during the Portuguese period. As to the conscience of Holland of those days, to be Roman was worse than to be heathen or Mahomedan; it had to be seen to, in the first place, that these Catholic natives should be converted into Protestants, a change to which they submitted without protest. This motive for undertaking the care of these native Christians, however, must not blind us to this, that it remains a most remarkable fact that in Holland in those days a warm interest was immediately awakened for the conversion of these new subjects, whilst in the other Protestant countries conscience still remained slumbering for ages with regard to the call upon all Christians to take a living interest in mission work. The very first Governors-General were directed in the instructions given them to report in their yearly accounts of the state of political affairs, trade, war, &c., concerning the propagation of the Christian religion likewise. Moreover, it was specially

enjoined upon all clergymen sent out to do their utmost for the conversion of heathens and Mahomedans. The Company promoted this by making special additional allowances to those pastors who could preach in Malay or another native language. In many places, therefore, there speedily arose, in addition to the Dutch service, a service in Malay, and at times in Portuguese also. Some pastors likewise carried out divine service in other native languages.

With great zeal and love, the Churches of the Netherlands undertook the sending out of preachers to the East and West Indies, and indeed gradually to many other parts of the entire world. That the powers of so small a country often fell short of satisfying the great needs will surprise no one.

In 1623, the East India Company, in order to meet the continually growing need of clergymen, established a seminary or college in the University of Leyden, in which at the Company's expense young men who would undertake to go to the Indies as preachers could study theology, receiving in addition a special training for Indian service. Unfortunately, this seminary, which yielded excellent results, remained in existence only ten years. The chief reason why it was closed must be sought in the fact that it was too expensive, and that the Company hoped to satisfy its clerical needs more cheaply. History has shown that this was impossible, for during the two hundred years of the existence of the Company, almost every letter of the Church in the Indies complains of the lack of clergy required for service there. There were times when things were better (at the best time, for instance, there were ten clergymen at Batavia alone), but mostly the number of forty-seven clergymen allowed by the Company was far from complete. During the last fifty years

of the Company's existence, the position was very sad; Batavia during most of that time had one clergyman only. It need hardly be stated that in view of this great deficiency of personnel, there was no longer any idea of carrying out even the most essential work in the conversion of heathens and Mahomedans.

The greatest difficulty was that the Company had to pay for everything that was done for the religious needs of the Indians in those days; it had the absolute monopoly of all expenditure as likewise of all profit. That the Churches in the Netherlands by private initiative should have been able to do something for preaching the Gospel in the Company's territory was an idea which arose now and again, but which was quite incompatible with the spirit of the time, and above all with the Company's desire for domination. The latter suffered absolutely no interference on the part of others in these regions, where it was first and foremost a trading corporation, which had to seek for great profits; therefore it cannot surprise us that mere spiritual needs were somewhat forced into the background. We must, indeed, acknowledge that the Company expended very considerable sums for the spiritual requirements of its servants and for propagating the Gospel, even though its policy was too often dominated by material aims.

During the Company's time, and at its cost, no less than 254 clergymen were sent to the East Indies, and certainly more than 1,000 "sick visitors." When the Company ended, there were, on a moderate estimate, 70,000 native Christians in the Dutch East Indies.

Nevertheless, the Company was the greatest hindrance to the development of the missionary spirit and missionary interest in the Netherlands, which had promised so much good during the first fifty years of the seventeenth century. Chiefly owing to this resistance, the Churches in the Netherlands were hindered in what they wished to do in the interests of their sister Churches over-sea. It is true they continued with dogged perseverance to



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maintain relations with the latter, and every year correspondence was conducted by the Churches that had been instructed for the purpose with the Churches in India, but the first glow of enthusiasm was speedily extinguished by the resistance encountered. Nevertheless, until the end, a regular report

was read at the provincial synods as to the state of affairs in the Indies. That interest in missionary work had not entirely died out, we see, in 1797, when Holland groaned under French domination, when it had lost all its colonies, and when, notwithstanding these unfavourable circumstances, the Dutch Missionary Society was established in Rotterdam, which, upon the model of the London Missionary Society, aimed at promoting missions among the heathen at its own cost. With this the new period of the free development of the Dutch Missions dawned.

At this second period, beginning with the restoration of Dutch government in 1815 after the English interregnum, we must pause a few moments. The East India Company had disappeared never to return. The Indies came under a newly constituted Government, and Church affairs likewise passed into an entirely new phase.

Just as in the Netherlands, the Government in the Dutch East Indies undertook the obligation to meet the costs of the clergymen required to be appointed for the needs of the European congregations. No thought was given, however, to provision for the native congregations, whilst the conduct of the missionary work was entirely incompatible with the neutral attitude of the Government towards religion. On the contrary, in the nineteenth century, which may rightly be called the century of missions, as regards the Dutch Indies also, mission work extended and was taken in hand by means of private societies, to which lately a Church Mission was added. In the first place, however, this work aimed at gathering whatever was left of the congregations formed under the rule of the Company. Later on new missions were opened at a number of places. Success was varied. Generally the mission bore the greatest fruit among the heathens, where it was still possible to forestall Mahomedanism. The mission to the Mahomedans here, as everywhere else, was found to be an exceedingly laborious field of work. Nevertheless, the great German mission specialist, Professor Warneck, has stated that of all missions to the Mahomedans the Dutch have had the most success.

On the Amboina Islands, where Christianity attained its widest extension during the domination of the Company, the population, notwithstanding the long-continued neglect, was still found to have adhered mainly to Christianity. The Dutch Missionary Society found in the most northerly point of Celebes, known under the name of Minabassa, an extremely fertile mission field. Practically the entire population (now consisting of 183,000 souls) came over to Christianity. The Rheinische Missions Gesellschaft (established in Barmen in Prussia) met with a great success in Sumatra, in the Batak lands. It now numbers nearly 100,000 converts as a result of its work in the Dutch Indies.

Protestant missions in the Dutch Indies suffer, generally speaking, from the excessive want of unity in their efforts. No less than ten missionary societies were established in Holland. In addition, the Rheinische Missions Gesellschaft, just referred to, does a very extensive work. The missionaries of the Salatiga Committee established in the Netherlands are, indeed, for the most part Germans, and are all trained by the Neukirchener Missionsverein at Neukirchen, in Prussia. Latterly, in addition to the Salvation Army, the following foreign missionary societies have begun work in the Dutch Indies:—The Seventh Day Adventist Church of Iowa, the Seventh Day Adventists of Australia, and the Missionary Society of the Methodist

Episcopal Church, which associations for the present number but very few converts. In 1906, the whole of the Protestant missionary societies established the Missionary Consulate at Batavia, as a general representation of the missions, particularly in relation to the Government.



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APOSTOLIC MISSIONARY, BATAVIA.

In 1870, the charge of some missionary territories where native Churches had arisen was taken over by the Government, and these Churches were incorporated in the Evangelical State Church. To meet the needs of these, assistant pastors were appointed, who, just like the pastors, have their salaries provided by the Government. These assistant pastors exercise rather a general supervision over a number of congregations; under them are the native leaders, who are at the head of the native congregations, but of whom very few as yet administer the sacraments.

On surveying the present position (end of 1908), we find in the Dutch East Indies:—

The Evangelical Church, to which, in the first place, all Protestant Europeans belong. It now comprises 50,527 members, and has 41 clergymen. Among the European Protestants, there are also in Batavia and Sourabaya small Free Reformed Churches, each having one pastor, whilst at Batavia there is also an English and an Armenian Church, which, however, have no fixed leaders or pastors.

In addition to its European members, the above-named Evangelical Church numbers 281,385 members in its native congregations, for whom 26 assistant pastors are appointed.

Besides these Churches we find the work of the Protestant Missionary Associations, with a staff of 102 missionaries (exclusive of the officers of the Salvation Army, of which there are about 30) and 167,856 converts. In the various missions we find 10 training schools for native teachers and preachers, and 820 lower schools with 161,225 pupils; also 6 industrial schools, 2 missionary printing offices, 3 large and a number of smaller mission hospitals, and a number of other institutions.

In general, it can be said, therefore, that there are now in the Dutch Indies fully 50,000 Protestant Europeans, and nearly 500,000 Protestant natives.

ROMAN CATHOLIC MISSION.

ROMAN Catholicism in the Dutch East Indies dates back to the sixteenth century, and according to the historian of the Catholic mission in Netherlands India, the Rev. Father A. J. H. van der Velden, Apostolic Missionary in Larantoea (Flores), from whose book the facts given in the following pages are culled, the great Vasco de Gama was the tool in God's hands to smooth the way for those who were to announce the Gospel. At Calicut, a harbour on the Malabar

ignite the torch of faith in their possessions over the sea, the religion of Jesus Christ made its entry into every region. Secular clerics, Jesuits, Augustine Fathers, Capuchins, Carmelites, Dominicans, Franciscans, Jesuits, and Theatines, vied with each other in virtue and holiness, and overcame powerful opposition only by the indefatigability of their labours, many even watering the soil with their blood in defence of their faith.

In May, 1546, the holy St. Francis Xavier

gregations, and from here the priests extended their labours to New Guinea and the islands of Papua. St. Francis Xavier preached with great success at Halmahera, and Amboina also saw St. Francis in his indefatigable work. There he likewise established a Jesuit mission and seven schools, which soon increased to thirty. In the second half of the sixteenth century they counted ten thousand followers. Then followed in turn the conversion of Saparoea, Kowssa-Laut, and other islands. Theatines, Dominicans, and Franciscans also had their missions here.

About the year 1529 the preaching of the Gospel had already begun in the Solor Archipelago. The Dominican Fathers in 1561 established a mission and a convent on the island of Solor, and soon after that we find well-regulated congregations on Flores, Sawoe, and Timor.

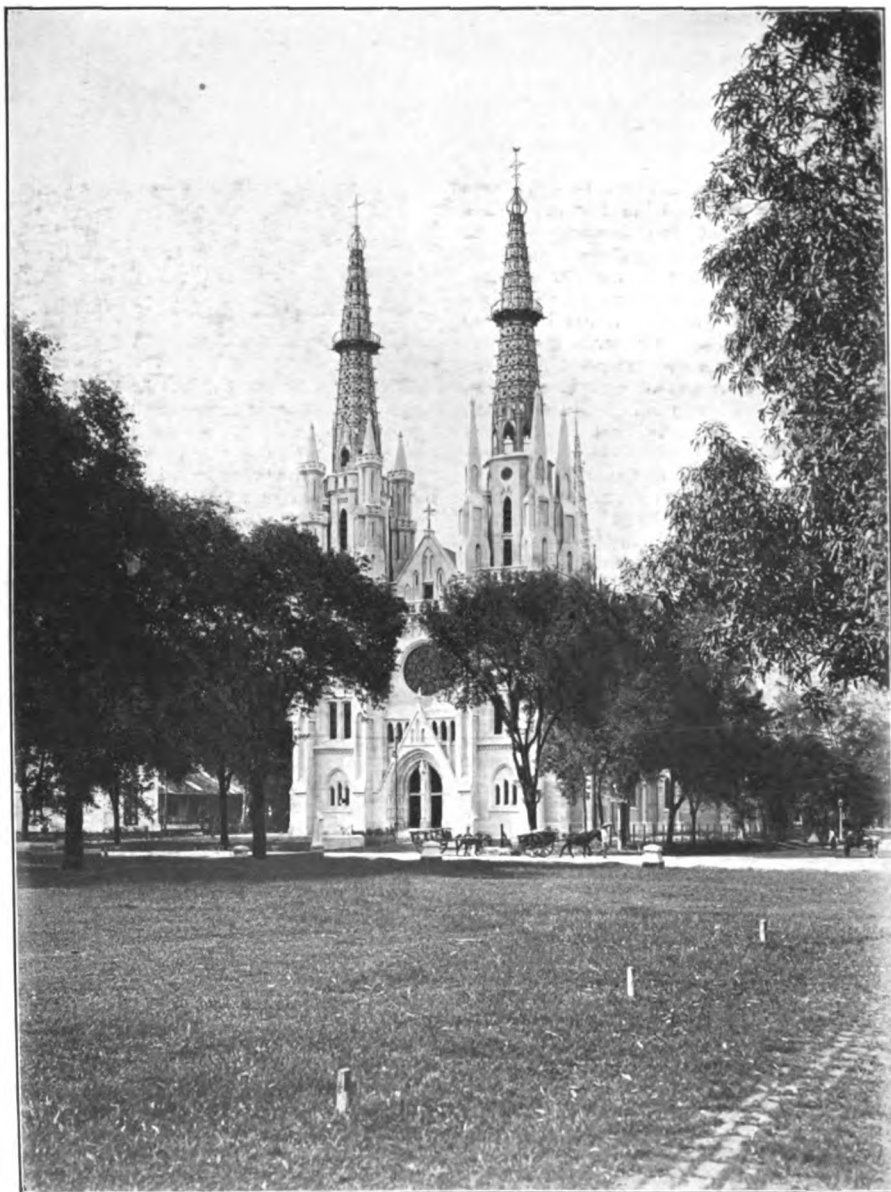
Celebes was the working field of Father Diogo Magelhaens about 1563. At Menado, in the Minahassa, he baptised the king and fifteen hundred of his subjects. Tontoli, Gorontalo, and other places begged him to preach the Gospel to them, and the inhabitants of Macassar soon embraced it. In the middle of the seventeenth century there were Jesuit Fathers in the last-named place, with a presbytery and church, a Capuchin convent, with a church, and likewise a church under the ministration of secular clergy. The chief seat of the Dominicans was transferred to this town, whilst the Franciscans and Augustines also had their monasteries there.

Franciscans were also found on the island of Borneo, and at Bandjermasin there was a flourishing mission of the Theatine Fathers.

The kingdom of Atjeh, in Sumatra, was civilised, whilst the Bataks allied themselves with the Portuguese, and swore never to embrace Mahomedanism. Several places in Java were visited by the preachers of the Gospel; we find Dominicans at Japara, Franciscans and Dominicans at Panawekan, and again, Franciscans at Balambocang, on the East Coast of Java, in the Strait of Bali.

Throughout the archipelago Christianity had to wage a severe and continuous struggle against Mahomedanism and heathenism, churches and schools were sacked and plundered, Christians murdered, the apostatising of converts had to be deplored, but the Catholic faith not only held its ground but triumphed, conquered, and continually spread. Numberless are the heroes who merit to be enrolled in the book of martyrs of the Catholic Church in the East Indies, heroes who gave their life for the faith, often under the most frightful torture. It is known certainly that the Dutch had sworn the destruction of Catholicism both in the Colonies and in the Mother Country.

The severest laws regarding baptism and marriage, church attendance and the harbouring of Catholic priests, and even the education of children were promulgated, in order to destroy Catholicism root and branch. By degrees the most flourishing missions failed—those of Ternate and the Moluccas, New Guinea and the Papuans. Catholic worship was banished from Amboina, Saparoea and Noesa-Laut; Celebes, with the Minahassa and the Christian congregations of Macassar, were wrested from the Church. Borneo and Sumatra were abandoned. Only on Timor and in the Solor Archipelago the Portuguese stood their ground, and with them the Catholic faith; everywhere else it was rooted out.



ROMAN CATHOLIC CHURCH, WATERLOO PLEIN, WELTEVREDEN.

coast, he hoisted the Portuguese flag on May 20, 1498, and thus opened to the Gospel the path to the Moluccas and the surrounding islands. In 1511, Alphonso d'Albuquerque, Governor of the Indies, directed his attention towards Amboina and Ternate. Soon the Portuguese made themselves masters of the island, and as they, like the Spaniards, regarded it as their most sacred duty to

arrived at Ternate, and there erected a mission of the Jesuit Fathers, and the college which a Portuguese local governor had begun a couple of years before was placed under the direction of these fathers. It speedily developed and soon sent out its missionaries to all parts. All the islands in the neighbourhood soon possessed their preachers of the Gospel, with numerous Christian con-

PERIOD FROM 1808 TO 1859.

The revolution of 1795 concluded the supremacy and domination of Protestantism as the State Church in the Netherlands. After King Louis Buonaparte ascended the throne, equal protection was afforded to all forms of worship in the State, the oath of the King containing the words "I shall respect and cause to be respected the freedom of worship."

By a royal decree of March 6, 1807, two secular clergymen, the Rev. Jacobus Nelissen and Lambertus Prinsen, obtained permission to proceed to the Indies as missionaries, and at the same time their position as Roman Catholic priests was recognised. After a voyage of five months they reached Batavia on April 4, 1808, and on the following Sunday, April 10, the first public service took place in a private house. The activity of these missionaries was necessarily restricted to the Europeans, citizens, and soldiers who were within the mission territory, which, for the time being, was Java only. Two years later, on July 12, 1810, several coadjutors arrived. One remained at the landing place, Sourabaya, another travelled to Batavia, and with Pastor Prinsen located at Semarang, the three chief points in Java were thus in possession of a pastor. Soon a Catholic church was erected, with the benevolent co-operation of the Government, at each of the principal points. The first Catholic church was consecrated at Sourabaya in 1822, but was replaced by a spacious and suitable building in 1900.

A heavy blow fell on the town of Batavia and the entire mission by the death of the Very Rev. Jacobus Nelissen on December 6, 1817. His successor was Lambertus Prinsen, who, by decree of November, 1818, was appointed Prefect Apostolic by Rome. He continued to reside at Semarang, where he was assisted by Pastor Johannes Hendriken Scholten, who arrived on October 27, 1826.

In those days Dipu Negoro, a prince of the Sultanate of Djocjakarta, had raised the flag of insurrection, and the war cry resounded throughout the whole of Central Java. Thousands of Javanese lost their lives in the struggle, both by the sword and by misery and privation. In addition to the field hospitals, the permanent hospitals within the sphere of operations were filled to overflowing with invalids. Among the sufferers perhaps the majority were Catholics, who, during their illness and on their deathbed, urgently needed spiritual assistance. A very heavy strain was imposed on Pastor Prinsen, but he was most efficiently assisted by Pastor Scholten. At the outset they undertook the service in turn in Semarang or in the various hospitals, until in July, 1827, Pastor Scholten was exclusively designated by the Prefect Apostolic for service in the sphere of war. By decree of January 2, 1828, Pastor Scholten received his official appointment as almoner of the army in the field, and was accorded a rank equal to that of captain of the staff.

Six months later Prefect Prinsen left Semarang and took up residence at Batavia. This he did on the insistence of His Excellency du Bus de Gisignies, who had in view the establishment of a new church at Batavia. This church, which served for fully thirty years, was solemnly dedicated on November 6, 1829, by the Prefect Apostolic.

The Commissary-General for the Dutch Indies, the Burggrave du Bus de Gisignies, did much for the Church, not only by example in regularly attending divine worship on Sundays and holy days, but also by openly and unconcernedly manifesting his religious

principles. On February 5, 1830, this nobleman started on his return journey to Holland. He died in his castle at Oostmalle, not far from Antwerp, and his worth is commemorated in a fine polished granite monument erected in front of the gateway of the new cathedral.

After twenty-two years of uninterrupted life of difficult work in the tropics, the Prefect Apostolic, on account of ill-health, returned to the Mother Country, and at the end of the Javanese war he entrusted the newly appointed Pastor of Batavia, Johannes Henricus Scholten, with the temporary administration of the mission.

At this time French priests belonging to the Société des Missions Etrangères in Paris began missionary work among the people of Nias and the Batak country. Their efforts were not fruitful, but attention was drawn to Sumatra, and in 1832, under Governor-General de Eerens, a church station was established at Padang. In 1835 the

appointed Pastor of Batavia. Monsignor Grooff had been Prefect Apostolic in the Mission of Surinam, and had devoted his priestly work above all to lepers. After having made the necessary arrangements at home and obtained, in an audience of the King, the assurance of His Majesty's continued protection, Monsignor Grooff and four missionaries, with the hearty good wishes of friends and acquaintances, on December 6, 1844, undertook a voyage to the East Indian Mission; and on April 21, 1845, they arrived at Batavia.

The Bishop encountered resistance on the part of most of the clergy, who were already at work in this mission, and not the slightest co-operation on the part of the Dutch Indian Government, which refused to recognise officially the priests who had arrived with Monsignor. By decree of the Governor-General Rochussen of January 19, 1846, he was suspended in the exercise of his functions as Vicar Apostolic and Pastor of Batavia;



CATHOLIC CHURCH, SOURABAYA.

Prefect Apostolic was attacked by typhoid fever, and he was reluctantly compelled to return to Holland, which he did on February 3, 1842, after having appointed Pastor Carstenstat as Vice-Prefect.

The Government of the home country had long since entered into negotiations through the Internuntius in The Hague with the Holy See, in order to arrive at a better settlement of Church matters not only in Holland itself, but also in the Dutch Indies. The result of these negotiations was that after the discharge of the Prefect Apostolic Scholten owing to illness, the Batavian Mission was raised to a Vicariate Apostolic by a decree of the Congregatio de Propaganda Fide of December 20, 1842, by which decree the Very Reverend Jacobus Grooff was at the same time appointed Vicar Apostolic under the title of Bishop of Canea. This was followed by the royal ratification by decree of December 10, 1842, and by decree of March 9, 1843, the new Vicar Apostolic was

on January 22 the Bishop received official notification from the Resident of Batavia that Monsignor, with the clergy he had brought from Holland, would have to depart with the ship *Java's Wilken*. This departure took place on February 3. In order to prevent further unpleasantness, His Holiness Pope Pius IX., on December 1, 1846, appointed Monsignor Groot Visitor Apostolic of Surinam, whilst a coadjutor with right of succession was to be added to the Vicar Apostolic for the administration of the Indian Mission.

On June 4, 1847, the Very Reverend Petrus Maria Vrancken, at that time Deacon and Pastor of Sittard, was appointed by His Holiness Pius IX. as Bishop of Colophon and coadjutor of the Vicar Apostolic of Batavia, with the right of succession. In this capacity he was recognised by His Majesty the King by decree of July 10, 1847. Monsignor Vrancken, who had chosen the land route by way of Suez, was able to set foot on

shore in Batavia on February 13, 1848. Five new missionaries were at his disposal. With the arrival of Monsignor P. M. Vrancken in 1848 the dawn of better days appeared to be gradually breaking. The resolute and authoritative deportment of the new Vicar promised a rich future. He displayed much activity in his oversight of the mission stations, and inaugurated a system of Christian education for girls, calling to his aid in this scheme the Ursuline Sisters. On February 10, 1856, Batavia received the first seven religious sisters, who were to con-

PERIOD FROM 1859 TO 1902.

Shortly after the arrival of the first missionaries of the Society of Jesus on July 9, 1859, came the establishment of two new mission stations—at Ambarawa and Larantoea on Flores. In Sourabaya work was also carried on with indefatigable zeal.

In the instruction of the youth it was recognised that the future of the mission depended, and on May 28, 1862, the first four brothers of the Congregation of St. Aloysius of Gonzaga landed in order to

passed over to the Catholic faith. Returning to Menado, they saw themselves deprived of all spiritual assistance. The Bishop was now asked to send a priest there. About the same time, the commander of the military in Amboina attempted to send a missionary to the Moluccas, in order that the many Catholic soldiers might fulfil their religious duties. The Government gave its consent, and Pastor de Vries was entrusted with this mission. On his journey, which lasted two months, he visited the Catholics dwelling in Minahassa, and made 254 baptisms. True, a storm of indignation on the part of the Protestant missionaries against the Catholic mission broke out, but the first important step had been taken to regain the ground which was taken from the Catholic Church by the East India Company. Only after many journeys of this kind, by various pastors, was a permanent missionary post for the Catholic Church allowed by the Governor-General Van Rees in 1886.

Pastor de Vries was appointed later Pastor of Soengeislan, in Banka, in order to work among the Chinese, and he contributed greatly to make the mission flourish.

On February 5, 1870, eleven Sisters Franciscan, belonging to the Congregation of the Franciscan Sisters, from Heythuizen, were heartily received at Semarang by Monsignor Lynen, Chamberlain of His Holiness Pius IX, and Pastor of Semarang. Monsignor Lynen, out of his own pocket, had paid for the equipment and the voyage of the sisters. They came, in the first place, in order to undertake the direction of the orphanage established by Pastor Scholten and enjoying a subsidy from the Government, and likewise in order to establish at Semarang a first-rate school for the respectable class. This congregation now counts a great number of members in the Dutch Indies. The Franciscans, in addition to Semarang, established schools at Magelang and Djocjakarta, and missionary schools for native girls at Larantoea, in Flores, and Mendoet (Kedu), on behalf of the Javanese girls who are trained up to Christianity under the conduct of the missionaries at Moentilan and Mendoet. Furthermore, these sisters have a school on the Kei Islands, and they in many respects thus render inestimable services to the mission.

July 12, 1888, was an interesting date for the Catholic station of Padang. From that date nine Sisters of Charity came to settle there. They were the first sisters of the Tilburg Congregation of Our Lady, the Mother of Mercy, who then trod the soil of the Indies. Sisters of the same congregation also established themselves in 1890 in Central Flores, to tend the welfare of the native girls.

In 1885, Pastor M. J. D. Claessens was appointed the first Pastor of Buitenzorg, which, until this time, had been visited on official tours by one of the Catholic clergy of Batavia. Pastor M. J. D. Claessens was intended to perform divine service both there and in the environs regularly. Just as in 1809 at Semarang two orphans were entrusted to the care of the pastor, which led to the magnificent establishment of the orphanage there, now the largest and most important orphanage throughout the Dutch Indies, now here at Buitenzorg a young child was brought to the missionary, who was the first inmate of the Vincentius Institute, with which the name of Pastor Claessens will be connected for all eternity in grateful remembrance.

The first station on the wide-stretching



WILLEMS KERK, KONINGSPLEIN, BATAVIA.

tribute so greatly to the flourishing of Christian life. Another institution of incalculable value was the Association of St. Vincent and St. Paul, which was established at all stations within a short time.

It was arranged at the beginning of 1859 that two fathers of the Society of Jesus should be sent regularly to the Indies every year, and even more if the circumstances in Holland allowed, or if missionaries were urgently needed in the Indies owing to circumstances of an imperative character.

undertake the education of the male youth. About two years later, Sourabaya received the first five Ursuline Sisters, who soon opened a school, and 1865 saw the erection of a station at Djocjakarta.

The year 1868 was one of extreme importance, as it was then that in the Minahassa, on the north coast of Celebes, mission work was resumed. It had repeatedly happened that young people from the residency of Menado, entering upon military service, had, during their stay in Java,

territory of Sumatra was that in the Padang region. Afterwards Atjeh, on account of the unhappy war begun there, was regularly visited by one of the Catholic priests of Padang, i.e., one of those pastors, and since June 20, 1874, the Very Reverend Father H. Vorbroek acted constantly there as almoner until he was allowed, by Government appointment of January 31, 1881, to take up his post under the title of temporary Pastor of Great Atjeh and its district, at the station of Pante Pira, near Koeta Kadja. Pastor Vorbroek, who is now in his old age still working for the salvation of souls at Padang, is a glory of the Catholic Mission in the Dutch Indies, owing to his priestly zeal. In 1878, a station was also established in Deli, at the point called Medan, by the Vicar Apostolic Adamus Carolus Claessens with the approval of the Government. Under the same Vicar Apostolic a mission to the natives of Tandjong Sakti, in the residency of Bencoolen, was begun in 1888, and is still being continued at the present time, but is now and then temporarily interrupted owing to the want of missionaries.

Many stations, as will later be seen from a table, were established at favourable points, and many new and beautiful churches built. Moreover, the Catholic schools are increasing, many new sisters' schools are being begun, and at the beginning of 1906, at Batavia, brothers of the same congregation as those who had worked at Sourabaya established a school, in order to make provision there for the Christian instruction of youth of the male sex. On July 1, 1888, two missionaries, Pastor J. D. Kusters and T. Booms landed at Tocal, in order to establish a fresh missionary post for the Kei Islands, a group south-west of New Guinea. This mission met with much opposition from the Mahomedan hadjis, but Pastor Kusters established himself at Langgoer, half an hour's journey from Tocal, and separated from the latter by narrow straits. On August 4, 1889, after the necessary instruction, holy baptism was administered with great solemnity to ten youths of Langgoer, the first-fruits of what has become a flourishing mission.

The West Coast of Borneo until the year 1876 was included ecclesiastically in Batavia, and was visited from the latter place on official journeys by one of the pastors, according as circumstances allowed. This West Coast was in 1876 comprised in the Church district of Soengeislan, in Banca, where then Pastor Waltherus Jacobus Staal was sent to assist Pastor de Vries in his extensive sphere of work. Thus Pastor Staal had already several times, on pastoral journeys, gone to the West Coast of Borneo and visited the chief places where Catholics were found, such as Pontianak, Sintang, Bengkajang, Sambas, Pemangkat, and Singkawang, where, in 1875, a wooden church was erected, and in 1882 a school was begun for Chinese children. In the last named year the Catholic population of the West Coast consisted of 324 souls, i.e., 55 civilians, 127 soldiers, and 142 Chinese. On July 14, 1885, the West Coast of Borneo was separated from Soengeislan and made a special Church district. Pastor Staal on that date was appointed its first pastor with his station at Singkawang. His successor was Pastor Henricus Schröder, until in 1896 the latter was transferred to Batavia, and since then the station of Singkawang has been comprised temporarily in the pastoral journeys from Batavia.

A fact which will always be worthy of memory in connection with the administration of Monsignor Waltherus Staal, who

succeeded the Vicar Apostolic, Monsignor Claessens, in 1893, is that true mission work was undertaken among the original inhabitants of the island of Java, namely, the Javanese of Central Java. It is true that since the beginning of the mission individuals of that people had continuously accepted the Catholic faith, but a mission proper among the Javanese did not yet exist. To the zeal of Pastor Julius Keyzer, then Pastor of Semarang, was due the first great impulse in this direction. For this reason, Semarang was at the start the chief point of the mission. Soon, however, it became clear that in order to reap permanent fruits it was needful to go more centrally among the Javanese and farther away from the large towns. Therefore, with the consent of the Government, a station was established in the residency of Kedu, first at Moentilan, about 20 kilometres from Magelang, and afterwards, on July 12, 1899, at an hour and a half's journey from the first-named, a second station at Mendoet. Both stations are now in possession of a suitable church with corresponding presbytery; at both places, schools

and likewise those with the Government, had led to a successful issue, on December 22, 1902, a decree of the above Congregation was promulgated, approved by His Holiness Leo XIII., dividing the missionary territory of the Dutch Indies.

A second division of the Vicariate of Batavia took place by decree of the Congregation for the Propagation of the Faith on February 11, 1905. By this division, the island of Borneo, the largest island but one in the world, was transferred as a missionary country, in so far as it is under the Dutch flag, to the Capuchin Fathers under the name of "Apostolic Prefecture of Dutch Borneo." At that time, there was not a single missionary residing there. The Southern and Eastern Divisions, with the chief station of Bandjermasin, was visited by the Pastors of Sourabaya. The West Coast, where a missionary formerly had been established at Singkawang, had been visited during later years by one of the pastors from Batavia. On November 20, 1905, the first Capuchin Fathers arrived at Batavia: the Very Reverend Father Pacificus as Prefect Apostolic, with three fathers and two lay



CALVINISTIC CHURCH IN BATAVIA, 1806.
(From an old engraving)

have been opened with fully five hundred boys, of whom, however, only part as yet, although a large part, are Catholic, whilst the entire number of parishioners may amount to something under a thousand. At Moentilan, the school for future instructors is accommodated in large buildings, whilst at Mendoet, under the direction of the Franciscan Sisters, a school has been opened for Javanese girls who desire to be brought up in Christianity.

The great expansion of the mission, above all as regards the construction of churches and the establishment of Catholic schools, took place under the present Vicar Apostolic, Monsignor Edmundus Sybrandus Luypen, who in 1898 was appointed successor of Monsignor Staal. In 1897, after having directed the mission for only three years, the latter died on a pastoral journey in the Banda Sea.

FROM 1902 TILL THE PRESENT TIME.

After the negotiations with the Holy See through the Congregatio de Propaganda Fide,

brothers. They speedily continued their journey, and Pastor Henricus Schröder, who had resided at Singkawang, conducted them to the new mission field in order to acquaint them with the conditions and introduce them to the Chinese and other Catholics. Since that time, new missionaries have travelled thither to lend their co-operation in the work, and in October, 1906, some Sisters of Mercy of the Congregation of Veghel likewise went thither, being not only the first of that Congregation, but also the first sisters who established themselves in Borneo.

The position of the Catholic Mission in the Dutch Indies must be described generally as favourable. The religious life of the Europeans has been gradually improved since the arrival of the first missionaries. The churches are well attended, and the administration of the Holy Sacraments increases year by year. The Catholic Church has won a highly honourable place in Dutch Indian society, and priests are everywhere treated with the utmost respect by natives and even by those who differ from them in views.

NUMBERS OF THE CATHOLIC POPULATION IN THE APOSTOLIC VICARIATE OF BATAVIA.

					Number of Roman Catholics.				
Stations.					Europeans.		Natives.	Foreign Orientals.	Total.
					Civilians.	Soldiers.			
Java :									
1	Ambarawa ...	...	...	...	1,000	501	5	2	2,468
2	Bandoeng ...	...	...	...	1,428	578	20	2	2,028
3	Batavia ...	...	...	...	3,712	1,070	74	41	4,807
4	Buitenzorg...	...	...	...	773	131	20	—	924
5	Cheribon ...	...	...	...	771	—	1	—	772
6	Djocjakarta ...	...	...	...	1,040	282	22	52	1,906
7	Madioen ...	...	...	...	1,450	75	2	—	1,533
8	Magelang ...	...	...	...	679	316	20	—	1,015
9	Malang ...	...	...	...	1,150	82	10	—	1,242
10	Mendoet ...	...	...	...	2	—	216	1	219
11	Moentilan ...	...	...	...	4	—	580	—	593
12	Semarang ...	...	...	...	3,593	132	90	16	3,837
13	Sourabaya ...	...	...	...	3,849	292	20	10	4,171
Sumatra :									
14	Atjeh ...	...	...	...	338	705	42	158	1,303
15	Medan ...	...	...	...	458	16	—	235	700
16	Padang ...	...	...	...	1,195	334	10	22	1,501
17	Tandjong Sakti ...	...	...	...	147	—	600	4	811
Banka :									
18	Soengeislan ..	...	...	...	220	111	—	148	479
Celebes :									
19	Macassar ...	...	...	...	133	256	—	—	389
20	Minahassa ...	...	...	...	79	14	7,953	—	8,046
Flores :									
21	Larantocka...	...	...	...	22	2	7,079	—	8,003
22	Central Flores ...	...	...	...	23	—	8,752	—	8,775
Timor :									
23	Djenilo-Lahocroes ...	...	...	...	2	—	2,060	—	2,071
Total					23,634	4,957	28,560	601	57,842

If we add to these about 200 Catholics in the Apostolic Prefecture of Dutch New Guinea and about 400 for the Apostolic Prefecture of West Borneo, we get a final figure of, roughly, 60,000 Catholics.

The total Catholic schools in the Apostolic Vicariate of Batavia are as follows :—

(a) For Europeans, comprising 5,000 scholars.

(b) For natives, comprising 2,500 scholars.

The teaching staff of the Europeans consists of 15 brothers of the Congregation of St. Aloysius from Oudenbosch and 186 sisters, the latter assisted by 15 lady teachers.

The native Catholic schools are under the immediate supervision of the missionaries. The priests connected with the Catholic native instruction are 7 in number.

In the Apostolic Prefecture of Dutch New Guinea there are 16 schools established at different points ; one of them, a girls' school, is under the administration of the Franciscan Sisters. These schools number fully 400 pupils.

In the Apostolic Prefecture of Dutch Borneo, two schools are now established at Singkawang, one for boys, the other, a Sisters' school, for girls.

Under the conduct of the administration of the Association of St. Vincent and St. Paul, the Vincent Institute has been established at Batavia, under the direction of the Ursuline Sisters, with 75 orphans or waifs, and the St. Josef Institute, with 39 pupils ;

At Buitenzorg, the St. Vincent Institute with 182 pupils ;

At Sourabaya, the Catholic Orphanage for girls, with 40 orphans.

Beyond these, there is at Semarang a large Catholic orphanage subsidised by the Government, where, in two divisions, 182 girls and 74 boys are trained up in Christianity.

At Padang there is an orphanage for girls under the direction of the sisters of Our Dear Lady of Charity of Tilburg, which provides for 20 orphans.

We may here add that most schools for natives at the missionary stations are wholly or partly boarding schools, where the youth are maintained at the cost of the mission.

At the head of the Apostolic Vicariate of Batavia, which is entrusted to the Society of Jesus, stands His Lordship, Monsignor Edmundus Sybrandus Luyven, titular Bishop of Oropo. In that Vicariate, 57 priests work, assisted by 10 lay brothers of the Society of Jesus. In the Apostolic Prefecture of Dutch New Guinea, there are 12 missionary priests with 9 lay brothers, distributed over 4 stations, namely, Langgoer, Namar, Roemal, and Marauke, in New Guinea. The Apostolic Prefecture of Dutch Borneo numbers 9 Capuchin fathers, with 3 brothers, established at Singkawang, and they are looking for a favourable site for a missionary post on the East Coast of Borneo. In the three parts of the Catholic Mission of the Dutch Indies there are therefore 79 priests and 22 friars.

THE SALVATION ARMY.

THE operations of the Salvation Army were commenced in Java fifteen years ago. To-day the work is well-established and possesses the confidence of all classes, from the administrators and officials, including some of the native "sultans" and headmen, down to the humble villagers. The Army is now a legal entity able to acquire and hold property, having recently been incorporated under a Foundation Deed. The headquarters is at Bodjong, Semarang, and there are also stations in Batavia and Sourabaya, as well as in a number of smaller towns and villages.

In addition to Dutch officers, there are others of English, Australian, and Swedish nationality, besides some of the native Javanese, who have been trained in the Army and have risen to the rank of officership. The recently appointed commanding officer is Colonel Gerrit J. Govaars, of Holland.

By music, singing, praying, speaking, and visitation the officers are engaged in pro-

claiming the Gospel of Jesus. They also care for the sick and dying, and instruct both old and young in the ways of practical Godliness. Meetings are held not only in the Army's halls, but in market-places and by the wayside, or wherever the people gather together. One very successful method of evangelisation is by means of scripture pictures, which are often shown with the magic lantern. The villagers crowd round full of eagerness and interest to drink in the message.

The social side of the Army's work is largely developed in Java. Near Semarang, a large home for sick and destitute natives has been placed under its care. The inmates are employed in cultivating the ground and in various industries such as mat-making, whilst those who are sick receive treatment from the resident physician, who is also a Salvation Army officer. This gentleman is a skilful eye-surgeon, and has met with great success in treating the eye diseases which

are so common in Java. There are a number of boys in the institution who are regularly taught in school.

In Semarang also exists a commodious rescue home, where fallen women are influenced to return to paths of virtue, whilst they are trained for domestic service or for earning their living by means of the needle.

The Government of Java has recently placed in the Army's hands the oversight of the Leper Asylum at Pelantongan—a large establishment situated in the midst of a beautiful estate on which are found some valuable hot water springs which are useful for bathing purposes. A brass band supplies cheering music, and the officers have full liberty to carry on spiritual work amongst the inmates though there is no intention to interfere with the religious views of those who prefer the ministrations of their own teachers.



BAS RELIEFS, BOROBUDUR.

EDUCATION.

BY N. J. VERWEIJ, Knight of the Order of Orange-Nassau, of the Government Department of Education.

EUROPEAN EDUCATION.



HERE are no institutions for higher (university) education in the Indies. Beyond the secondary schools known as the Hoogere Burgerschoolen, with five years' course, there are no establishments preparatory to university education.

SECONDARY EDUCATION.

The first institution called into life by the Government for the purpose of forming a transition between primary and higher education was opened in 1860 at Batavia, under the name of the William III. Gymnasium.

This establishment, the object of which is the moral, mental, and physical development of the youths entrusted to its care, was intended for training both those who later desired admission to the courses in the higher schools and academies,* and those who desired to prepare themselves by wider education for effective work in those social positions and relations where no academic degree is required.

This institution at its very beginning consisted of three parts. A preparatory course (pro-gymnasium) received pupils who had completed their tenth year; a "gymnasium" course trained them for higher education; a third course gave a sort of secondary education. With the establishment was connected a living-in school, which, during its first years in particular, contributed no little to its success. After this living-in school had been closed in 1876 for all pupils living in Batavia, and for those in Sourabaya,† likewise as regards the three lowest classes, it was entirely abolished in 1879.

In conjunction with the enactment in Holland of the law of May 21, 1863, for the regulation of secondary education, the gymnasium in 1867 underwent provisional reorganisation, which was strengthened in the following year. The department of "classical studies," which, owing to various circumstances, had languished from the very outset (during the school year 1860-61 it had five pupils and in 1865-66 only one), was abolished; so likewise was the pro-gym-

nasium, which had become superfluous owing to the increase in number and improvement in quality of the lower schools. The establishment was thereupon divided into two departments, namely:

1. Department A.—Organised in pursuance of the secondary instruction law in Holland, on the footing of a secondary school with five years' courses, and intended for all those who desire a general education above that of the primary schools and outside that of university education, and also those wishing to prepare for their further education elsewhere.*

2. Department B, comprising the languages, countries, and peoples of the Dutch Indies for those desirous of qualifying themselves for official appointments in that country. This department does not belong by its character either to secondary or higher education; it is a special school for training administrative officers and officials.

Until 1894 instruction was imparted during a two years' course, and after this, when to the curriculum was added a knowledge of the codes of laws in the Dutch Indies, in a three years' course; nevertheless, from 1902, when this new subject was struck out of the curriculum, the course was again reduced to two years.

The subjects now comprise:

1. The history of the Dutch Indies.
2. Land and people in the Dutch Indies.
3. The religious laws, native institutions, and customs of the Dutch Indies.
4. The State institutions of the Dutch Indies.
5. The Malay language.
6. The Javanese language.

The students in this department are admitted to the so-called great officials' examination† for the Indian service. Only those who had passed this examination could be appointed to higher office positions and positions in the native administration.

Since in March, 1907, special conditions were laid down for appointments to positions in the native administration and some official positions in the Dutch Indies, this Department B serves for the training of those who are nominated as candidate Indian officials during their study for the preparatory examination for Indian administrative service to be passed one year after

appointment, and the final examination two years later.

Since 1907 the following subjects have been added to those indicated above:—

1. The outlines of modern law, the Dutch East Indies Penal Code, and Code of Penal Procedure.
2. The history and methods of the Mission in the Malay Archipelago.

Since 1868, the gymnasium, in its Department A at least, has been purely a Hoogere Burgerschool or secondary school, with five years' curriculum. For seven years it was the only institution for secondary education. In 1875, however, at Sourabaya, and in 1877 at Semarang, similar secondary schools, but with three years' course, were established; the courses in both these were extended in 1879 to five years.

A secondary school for girls instituted in 1882 at Batavia, with three years' course, was abolished in 1902. The small attendance at the school did not justify the comparatively high outlay.

As will be seen from the statement A appended, the three secondary schools in Batavia, Sourabaya, and Semarang constantly increased the number of their pupils. Nevertheless, the number of those who passed the final examination was beyond proportion small. This clearly indicated that a large number of pupils sought admission to the schools without intending to complete the course. It was deemed advisable, therefore, to establish at Batavia, in addition to the existing five years' school, a secondary school with a three years' course, which was erected in 1901 under the name of the Queen Wilhelmina School.

This establishment now consists of:

1. Department A, comprising—(a) A secondary school with three years' course; (b) a commercial school with two years' course.

2. Department B, which gives training (during three years of study) in—(a) Engineering; (b) architecture; (c) mining.

This department also comprised a three years' navigation course recently established by way of trial.

The Queen Wilhelmina School is in reality, therefore, a group of schools, all of which give secondary special instruction. The fact that this supplies an urgent need is evident from the constantly increasing number of students. The anticipation that

* The Royal Military and Naval Academies at Breda and Willemsoord and the Royal Academy at Delft.

† In 1875 a "Hoogere Burgerschool," or secondary school, with three years' course was established in Sourabaya.

* In a high school, the Royal Naval and Military Academies, &c.

† This examination was last held in 1906.

the establishment of this school would considerably relieve the Hoogere Burger-school, with five years' course, has not been realised.

Sourabaya likewise possesses its secondary education establishment in the so-called Burgeravondschool (secondary evening school). With an eye to the ultimate requirements of the pupils, the school is divided into two departments, one for training in architecture, and the other for giving instruction in machinery generally and sugar-making machinery.

Whilst in the technical departments of the Queen Wilhelmina School the staff attached to the establishment gives both theoretical and practical instruction during the morning and afternoon, in the higher evening school the instruction is only from 5 to 8 p.m., and is exclusively of a theoretical character, though practice is kept very largely in view. For pupils who require it, the Supervising Committee of the School, in conjunction with the director, endeavour to provide the opportunity of gaining practice during part of the day in Government workshops or private industrial establishments, in those crafts the knowledge of which is necessary or serviceable to them, with a view to their subsequent career.

The Government institutions of secondary instruction above referred to are open to all, without distinction of race, who have fulfilled the requirements for admission.

In order to meet the costs of this education, school fees are charged everywhere according to a specified tariff. If the parents of pupils, or the pupils themselves, possess no

means, and the pupils are distinguished for good conduct or industry, on certain conditions they may be admitted free of charge, and this admission may again be accompanied by the gratis supply of books and all articles required. A limited number of students in Department B of the Queen Wilhelmina School, whose parents reside outside Batavia and Meester Cornelis, may obtain scholarships to provide them with the means of subsistence. The scholarships, fifteen in number, amount to a maximum of Fl. 40 per month; they are allotted by the Director of Education, Religion, and Industry.

For the school attendance, the teaching staff, costs, &c., reference is made to the various tables appended hereto (A, B, and C):—

TABLE C.—PUBLIC SECONDARY INSTRUCTION.

Evening School at Sourabaya (Technical Instruction).					
At April 1.	Number.		Cost.		
	Teaching staff.	Pupils.	Expenditure.	Income	Difference.
1885	9	95	11,217	779	10,438
1890	8	33	14,250	—	14,250
1895	15	118	24,417	—	24,417
1900	24	262	32,636	—	32,636
1905	38	368	58,028	4,777	53,251
1908	46	401*	60,406	9,536	50,870

* Including 44 natives and 11 Chinese.

TABLE A.—PUBLIC SECONDARY EDUCATION.

Secondary Schools with five years' course (including Department A of the William III. Gymnasium).

Middle of	Number.							Passed final exami- nation.	Cost (in florins).		
	Schools.	Teaching staff.	Pupils.				Total.		Expenditure.	Rever.ue.	Difference.
			Europeans.		Natives.	Foreign Orientals.					
			Girls.	Boys.							
1880	3	51	389	—	—	—	389	22	365,437	74,571	290,866
1885	3	49	352	—	2	6	360	16	421,400	48,843	372,617
1890	3	51	354	—	5	—	359	24	417,600	50,063	367,537
1895	3	64	527	31	4	3	565	29	481,041	84,057	396,984
1900	3	73	536	113	13	4	666	34	520,950	83,726	446,224
1905	3	68	537	140	36	16	729	50	548,816	99,095	449,721
1908	3	99	646	194	45	39	924	62	712,582	104,405	608,077

TABLE B.—PUBLIC SECONDARY EDUCATION (Queen Wilhelmina School).
Higher School with three years' course and technical instruction courses.

Middle of	Teaching Staff.	Number of pupils.										Cost (in florins).			
		Dept. A.		Commercial School.		Total.	Dept. B.			Total.	Expenditure.	Revenue.	Difference.		
		Girls.	Boys.	Total.	Girls.		Boys.	Course of							
								Total.	Architec- ture.					Mechanical engineering.	Mining.
1905	31	(13) 85	(3) 24	(16*) 109	—	1	1	(7) 126	(14) 80	11	(21†) 217	183,447	18,437	165,010	
1908	45	(11) 113	(2) 42	(13) 155	(2) 13	2	(2) 15	(15) 147	(11) 137	(3) 9	(29) 203	267,197	22,455	244,742	

The figures between brackets in the above columns indicate the number of successes in the final examination.
* Including 1 native and 2 Chinese.
† Including 5 native and 4 Chinese.

With regard to the staff, it may further be remarked here that circumstances often made it necessary to have recourse to the services of lecturers who were not fully qualified for the subject in which they imparted instruction.

In addition to the Government institutions, there are private schools for secondary education. Both Batavia and Sourabaya each have a private secondary or higher school with three years' course for girls. Both schools receive a subsidy from the Treasury, which up to now has made good the deficiency shown by the expenditure of the establishments as compared with their revenue. For 1908, about Fl. 20,000 was paid out to these two establishments. Still, there has hitherto been no acknowledged right to this subsidy. Now that this right is acknowledged by the Government in principle (and subsidy regulations will shortly be issued making it possible for schools to receive considerable financial assistance if they conform to certain conditions and requirements), it may be anticipated that more schools for secondary instruction will gradually be established.

There are furthermore in the Dutch East Indies two private European trade schools which receive Government subsidies, namely, at Semarang and Sourabaya. These establishments are intended for training youths theoretically and practically into capable Civil servants, and for such other positions as the administration of these schools may think advisable. The school at Semarang was called into life in 1862, the school at Sourabaya in 1900; of late years, they have received from the Government a subsidy of Fl. 12,000 and Fl. 4,000 respectively.

Furthermore, the Government at the beginning of this year (1909) made the Semarang Trade School an advance free of interest of Fl. 20,000, which enabled it to build new premises. The trade school at Sourabaya has financial difficulties to contend with.

The superior authority over secondary education is in the hands of the Director of Education, Religion, and Industry. In so far as Government institutions are concerned, they are assisted by special bodies appointed, having in the case of the William III. Gymnasium the name of the College of Curators, and for the remaining establishments, that of Supervising Commission. These bodies are advisory to the Director of Education, Religion, and Industry in all matters concerning the schools under their administration or supervision.

No inspector has yet been appointed for supervision of secondary education, as is the case for primary education and all other departments of the service. Nevertheless, the proposal has been made to appoint a director from the beginning of 1910, and, as far as can be judged, this proposal will meet with the approval of the Budget legislator in the Netherlands. It is intended to entrust the proposed inspector with supervision not only over the secondary schools proper (the higher general schools with five and three year courses), but over all institutions for technical instruction both for Europeans and natives.

PRIMARY EDUCATION.

Wherever required by the needs of the European population, and wherever circumstances allow, European public primary education is given. The schools required are erected by the authority of the Director of Education, Religion, and Industry.

The public schools are divided into mixed and girls' schools. In the former girls and boys, and in the latter girls exclusively, are admitted. There are no exclusively boys' schools, with the exception of a school for the needs of the pupil corps* at Gombong (residency of Kedul).

In a large number of schools, both free pupils and paying pupils are found. In various places, however, having more than one school, there is one or more where no pupils are admitted free.

To cover the costs of education, the parents of the children, when their income is Fl. 150 or more per month, are called upon to pay school fees, according to a specified tariff.

Incomes beneath the said amount are exonerated from the payment of school fees.

The public schools are open to Europeans and those ranking equally with them, without distinction of religion, and likewise to the children of natives and those ranking equally with them, provided they do not exceed a certain age and they comply with the requirements regarding a knowledge of the Dutch language. They are not admitted free of charge. An exception is made with regard to the native youths who express their wish to be trained later as native doctors, and who are admitted to the European schools up to a total of eighty per year. A similar facility exists for native youths, up to the number of sixty per year, who wish to be trained as native officials.

Nothing is taught, done, or allowed in the public schools which is in conflict with the respect due to the religious ideas of divergent faiths. Religious instruction is left in the hands of the religious teachers. Opportunity may be given for this instruction to be imparted on the school premises. For the purpose of religious instruction, the scholar may be released from school work during the corresponding hours.

The education comprises as a minimum the subjects constituting ordinary primary education, namely: (a) Reading, (b) writing, (c) arithmetic, (d) the elements of the Dutch language, (e) the elements of the history of Holland and the Dutch Indies, (f) elementary geography, (g) elementary natural history, (h) singing, (i) first exercises in drawing, (j) free and co-ordinated gymnastic exercises, (k) useful needlework for girls.

Where there is the need for and the possibility of extension, one or more or all subjects of extended primary education may be taught. This instruction comprises: (l) Elementary French, (m) elementary English, (n) elementary German, (o) general history, (p) elementary mathematics, (q) drawing, (r) the elements of agriculture, (s) gymnastics, (t) ornamental needlework for girls.

At the end of December, 1908, extended primary instruction was imparted in fifty-eight mixed and girls' schools. The extension is in most cases limited to the addition of elementary French to ordinary primary education. The great majority of the fifty-eight schools in question are preparatory establishments for the secondary schools; for admission to these schools (*i.e.*, to the so-called *Hoogere Burgerscholen* proper) some knowledge of the French language is a requisite.

As was pointed out in the chapter on secondary education, it was seen from the enormous growth of the number of scholars in the secondary schools that the need was felt by many children for a broader education than the primary school was able to give,

whilst, on the other hand, the small number of those who entered for the final examinations of these establishments, with a five years' course, unmistakably indicated that those schools were not the best adapted for satisfying the need of this more extended education. An additional fact was that the establishment of new secondary schools of this kind, even with three years' course, would necessarily be restricted to a very few centres, in view both of the high costs involved and of the small number of Europeans resident in the various places.

In order not to make the provision of larger and more thorough education too expensive, and to bring this education within the reach of more persons, in 1902 and 1904 there was established by way of trial in one of the schools at Bandoeng, Djocjakarta, Madioen, and Padang successively, a two years' course of continued and extended primary instruction, in which primary teachers possessing special qualifications gave instruction during the ordinary school hours (besides the subjects of the ordinary school) in the subjects mentioned above under letters *l, m, o, p, and q*. Although this trial was not a complete success, a plan is now under consideration for converting this two year course into three years, for extending the scope of some of the subjects taught, and for adding a fresh subject to the programme, namely, German. It is furthermore in contemplation to attach certain requirements or privileges in connection with employment in Government service to the diploma to be issued after successfully passing through these courses. Good hopes as regards the success of these courses are entertained from this step. The number of courses, furthermore, is to be increased to seven.

In 1908, a new class of schools, namely, the Dutch-Chinese schools, was added to those for European primary instruction.

Among the Chinese section of the population in these colonies, the need made itself felt with constantly increasing force for thorough instruction on a Western basis. To satisfy this need, and, in addition, to awaken the national consciousness, which is almost entirely wanting in the Chinese born in this country, a number of Chinese schools have been established both in the Mother Country and in the Straits Settlements, under the stimulus of the action of certain prominent men in the Young Chinese movement. In these schools teachers imported from China gave instruction as best they might on Western models; these teachers, for the most part, had been educated in Japan. The language in which instruction was given was Mandarin Chinese.

The Government, recognising the right of its settlers of Chinese origin to education of this kind, but thinking it better that this education should be developed by the Government itself, resolved gradually to establish special schools where the children of Chinese would be instructed by European teachers through the medium of the Dutch language in all subjects of ordinary primary education. To these schools European children may be admitted, if necessary, and also, upon the consent of the Director of Education, Religion, and Industry, some of the children of natives. The Chinese pupils in these schools all pay school fees; the amount is regulated according to the means of their parents.

In 1908, such schools were set up at Batavia, Semarang, Sourabaya, and Macassar, comprising together more than eight hundred scholars. In the middle of this year seven new Dutch-Chinese schools will be opened, and it is contemplated gradually to increase

the number of these establishments during early coming years.

The need for European primary education is not met by Government provision alone; side by side with the public schools there are various private schools. Though formerly there were some differences of direction and tendency between public and private education (most of the private schools were boarding schools), during the past twenty years this has been altered. There are now only a few neutral private schools left; all the rest are on a sectarian or religious basis. They owe their origin to religious persons who, being dissatisfied with the obligatory neutral character in a religious sense of public education, have established schools where instruction is given in accordance with their religious convictions.

The Protestants, up to now, have set up only four schools of their own, including a girls' school, which is an establishment for education and training with boarding school attached; the great majority of the private schools are Roman Catholic Sisters' (girls) and Brothers' (boys) schools.

Among the pupils in the Sisters' schools there are many children of Protestant parents who do not find opportunity for the desired instruction in their immediate neighbourhood, and therefore entrust their daughters to the care of the reverend sisters both for education and training.

Denominational education dates back to 1800, a year after the legal equality of public and private education was laid down in principle by legislation. Since that time subsidies have in this country likewise been made by the Public Treasury to private educational establishments, the sums, it is true, being not very considerable, but nevertheless constituting an aid, by no means to be rejected, for the institutions in question. The right to subsidy on the part of these schools, however, was not acknowledged. This was only done in 1906; at the same time the rules for allocation of subsidies were published.

In the month of April of this year (1909) these rules were replaced by others. The chief characteristics of the new rules are the large amounts of the allocations for staff, buildings, first installation and yearly upkeep, and likewise the guarantees required from the school administration to ensure the permanency of position of the private teachers. It is intended that henceforward it shall be possible for these administrations to pay the staff of their schools almost the same salaries as Government teachers receive. It is not improbable that new subsidy rules will bring about a considerable increase in the number of private schools.

Table D (page 246), indicates the constant growth of European primary education during the last forty-five years, the statistics being taken on December 31 of each year.

During that period the number of pupils and the staff has increased five-fold.

Though in the public schools the number of male pupils is roughly half as much again as that of the female, in the private the number of the latter is almost three times as great as that of the former, the explanation of which lies in the fact that the majority of these schools consist of Roman Catholic girls' schools. Owing to these schools being, for reasons which will readily be understood, more amply provided with teaching staff than the public schools, the ratio in the latter between the number of teachers and the number of pupils is somewhat less favourable than in the private establishments.

It may be remarked here *en passant* that

* Intended to train up boys and youths for military service (on the ranks).

TABLE D.—EUROPEAN PRIMARY EDUCATION.

Year.	Public.															Private.															Amount of Govern- ment subsidy (in florins).
	Number.										Cost (in florins).					Number.															
	Teaching Staff.					Scholars.					Free.	Expenditure.	Revenue.	Difference.	Teaching Staff.					Scholars.											
	Pupil Teachers.		Total.	European.		Natives.		Foreign Orientals.		Total.					Schools.	Men.	Women.	Pupil Teachers.		Total.	European.		Natives.		Foreign Orientals.		Total.				
	Male.	Female.		Boys.	Girls.	Boys.	Girls.	Boys.	Girls.									Boys.	Girls.		Boys.	Girls.	Boys.	Girls.	Boys.	Girls.		Boys.	Girls.		
1864	—	66	137	—	29	—	166	?	?	?	3,760	2,015	330,843	66,919	263,924	40	19	23	—	—	42	?	?	—	—	—	1,270	—			
1870	3	68	130	—	16	—	155	2,856	1,367	266	4,223	2,047	534,885	108,216	426,669	44	32	53	4	16	105	746	1,381	—	—	—	2,127	—			
1875	3	76	198	19	9	—	226	3,790	2,025	386	5,815	3,230	864,623	123,107	681,516	33	42	54	2	4	102	825	1,374	50	—	—	2,169	—			
1880	3	107	211	100	2	7	320	4,865	3,397	442	8,223	4,068	1,301,471	194,209	1,107,262	21	29	50	1	1	81	630	1,215	45	—	—	1,845	1,200			
1885	3	130	241	144	2	11	398	5,232	4,213	534	10,322	4,733	1,780,331	207,923	1,572,408	19	21	60	—	3	87	569	1,316	9	5	9	—	1,935	1,200		
1890	3	144	273	176	2	3	454	6,354	5,067	687	12,377	6,091	1,955,684	216,349	1,739,335	17	24	77	—	6	107	716	1,679	4	—	—	2,399	—			
1895	3	150	348	168	—	—	516	6,698	5,722	978	14,010	6,746	2,321,285	264,189	2,057,096	19	32	108	—	—	140	798	2,095	20	8	1	6	2,868	4,015		
1900	3	169	371	190	—	—	502	7,525	6,067	1,327	15,462	8,131	2,513,411	287,880	2,225,531	22	28	130	—	—	158	925	2,508	50	20	21	6	3,540	29,790		
1905	3	184	411	245	—	—	656	8,225	6,850	3,244	19,382	10,005	2,810,942	315,940	2,495,002	30	33	200	—	—	233	1,048	2,896	143	40	168	38	4,333	72,065		
1908	3	190	466	266	—	—	732	9,120	7,371	3,190	21,714	10,240	3,354,132	377,599	2,976,533	40	35	195	—	—	230	1,180	3,146	313	107	256	108	5,116	116,998		

the body of public teachers for each year must be increased by those who are staying in Europe on foreign leave or who are working in a different branch of education.

Of the pupils in the public schools about one-half receive education free. From the fact that there are no figures entered for the free pupils educated at private schools, the inference may not be made that there is no free admission to them. On the contrary, a fair number of pupils are admitted free. The necessary data are not available for filling in the figure. As regards the cost of public education, which was increased ten-fold during the said period, attention is directed to the fact that it includes the cost of building and maintaining the school premises.

If it be taken into account that the number of European settlers (exclusive of army and navy) amounts to about eighty thousand, it may be concluded from the number of European pupils in public and private schools that there are very few children of European parentage not receiving education.

The staff, both of the public and private schools, particularly the male staff, is drawn for the greater part from Holland. The teaching profession in the Colonies appears to have little attraction for young men of the class and culture which would be desired. On the other hand, many young women are trained up as teachers. Throughout the Indies, there is only one State facility, namely, the normal course at Batavia, for preparing for the examination qualifying as teacher. This course was originally intended for training up young men, but owing to want of sufficient pupils of the male sex, young ladies were finally admitted; they now form the majority.

In training up young girls as teachers, moreover, ample provision is made by private initiative. Beyond two undenominational and one Protestant educational establishment, it is chiefly the Sisters' schools which undertake this training.

In Batavia and Sourabaya, there is a normal school, called into existence by the Government, where persons qualify as teachers, prepared in a three years' course for the examination of principal teachers. It is intended to institute a similar course at Semarang.

There is only one private educational establishment which affords training for female head teachers. Facilities for qualifying for examinations in foreign languages, mathematics, drawing, needlework, &c., are exclusively of a private character.

Owing to peculiar domestic circumstances, many children of European settlers, at the age when admissible to the primary school, have not sufficient knowledge of the Dutch language to follow the instruction given therein. It is generally recognised that this is a great drawback, not only to these pupils, but also to the others who come to school under more favourable circumstances. It is endeavoured to remedy this by establishing preparatory schools at many points. These schools, where the children are admitted at the age of three, four, and five years, make it their special task to impart the necessary knowledge of Dutch.

At the end of 1908, there were sixty-six schools or classes of preparatory instruction at work in thirty-five places. They were attended by, roughly, 3,300 children. These schools are due to private initiative, though the latter has had Government support since 1907. If the schools, both as regards staff and composition of pupils, comply with certain requirements and conditions, they enjoy a subsidy from the Treasury. In the year 1908, thirty preparatory schools in all received a subsidy of about Fl. 33,000.

There is a lower technical school, namely, the trades' instruction courses in Batavia. These courses, established in 1903, are intended to train up into artisans young people without means who possess little disposition for school subjects. For three years, instruction is given free of charge in drawing, metal-work, wood-work, and painting, all of these, with the exception of drawing, being exclusively practical. The necessary books, implements, &c., are supplied free. Instruction in wood-work was stopped in 1906, owing to the little interest shown. In this branch of craftsmanship, no remunerative employment was to be found for the pupils on termination, owing to the competition of Chinese and native craftsmen.

Most pupils applied themselves to metal-work. Those who succeed in the official examination of the course, in most cases, speedily find a properly paid position, thanks to the exertions of the director. The outlay for these craftsmanship courses amounted in 1908 to Fl. 20,940.

Supervision over primary education is exercised, under the orders of the Director of Education, Religion, and Industry, by inspectors, and locally by European School Commissions, appointed by the Chiefs of Regional Administration, in all places where there are one or more schools, private or public.

The number of inspectors from 1868 until

the beginning of 1909 was only three. In the month of February of this year, their number was increased to five. They are established at Batavia, Semarang, Sourabaya, Bandoeng, and Malang. If possible, they visit each school within their division once a year, and hand in a report upon the condition of education and the conduct and fulfilment of their duties on the part of the staff. They are, upon demand, advisory to the Director of Education, Religion, and Industry, and may also make proposals on their own initiative in the interests of education.

NATIVE EDUCATION.

From 1815 to the middle of last century, Government concern for native education was, as a matter of fact, limited to the Christian natives in the Moluccas and neighbouring islands, the regions where Christianity had been introduced under the East India Company.

In Java, however, and in other parts where Christianity had gained no ground, school instruction for the native population was a thing unknown. It came into existence gradually after 1850, under the pressure of the need which began to be felt, and with the assistance and support of the Government.

With the increasing development of the Colony, the necessity arose for more people in native society who should possess certain elementary knowledge. In the first place, this need was felt by the Government Administration, which had undergone great extension. The native aristocracy, from among whom native officials were and still are recruited by preference, also felt the need for establishing schools.

In 1848, the Governor-General was empowered to draw from the India estimates a sum of Fl. 25,000 per annum for establishing schools among the Javanese, intended chiefly for training native officials. This amount was to serve for erecting a training school for native teachers and twenty ordinary schools called the provincial schools.

During a period of about twenty years, native education, both as regards institutions and scope, remained within the limits which had originally been laid down. Nevertheless, the principle itself, that instruction should be limited to the children of native officials and chiefs in order to train them up as useful officials for the service of the country, had been abandoned long before the end of the above period, and the Government had acknowledged its duty to uplift the entire

native population of the Colony, as far as lay in its power, to a standard of civilisation and development. Not before 1872, however, was there a general arrangement of native education on this basis.

The subsequent period of twelve years was characterised by the very flourishing condition of this education. In various parts of the archipelago training schools were erected for developing capable and skilled teachers. Although the increase in the number of native schools at the outset, as long as the rule was adhered to of not opening any schools before a trained staff was available, was necessarily an exceedingly slow process, with the powerful and effective assistance of the representatives of the people in Holland, who with kindly hand provided the necessary funds, the Indian Government took all progressive measures (relinquishing, it is true, the above rule) to promote as far as possible the spread of education.

In 1884, however, the reaction followed. In the first place, the unfavourable condition of the finances of the country necessitated the limitation of expenses of all branches of the service to a minimum. The second reason for not continuing on the lines marked out lay in the generally recognised fact that this education, both in the training schools and ordinary schools, did not appear to justify the hopes entertained. The education was, as regards its scope, of too Western a character, and, furthermore, organised on too large a scale; it did not take sufficient account of the degree of civilisation beyond which the various native races in the Dutch Indian Archipelago had not yet passed. Moreover, the financial resources of the State would never allow of introducing education throughout the Indies in accordance with the original project. It became necessary to reorganise national education in a rational way. This reorganisation came about in 1893. The chief principle of the new regulation lay in the acknowledgment that the native population needs schools (first-class schools) with somewhat extended primary education, particularly for the higher and more prosperous classes, in the chief cities and centres of trade and industry, whilst for education for the lower class of the population simple and less costly schools (second-class schools) are sufficient.

It having been shown by experience that Indian teachers, left to themselves after leaving the training school, gradually fell off in their capacity and interest for their work, whilst the very rare visit of an expert authority could not keep them up to the level once attained, and protect the school against decay, ten* inspecting officers, namely, five inspectors and five assistant inspectors, were appointed in order that the new regulations should better answer their purpose. The duty of these inspectors was not only to exercise regular supervision, but to furnish guidance to the teachers during their inspections.

Of the nine training schools existing in 1884 five were successively closed. The number of subjects in the remaining four schools was largely reduced. Among other things Dutch was done away with. It had been included in the curriculum of these establishments in order to enable the future teachers to read and understand books written in this language, so that they might retain later what they had learnt, and reach a higher degree of development than had hitherto been possible by the aid of the resources existing in the native languages.

* In 1907 the number was increased to twelve, namely, six inspectors and six assistant inspectors.

It was found that this step of abolishing Dutch as a subject was a mistake.

In various parts of the archipelago, namely, Amboina, the Southern and Western Islands, the Banda Islands, Ternate, Batjan, the northern part of Celebes (the Minabassa), the Sangir and Talaud Islands, Timor, and the Southern and Eastern Division of Borneo, the Government and Christian Mission for a long time combined with each other for maintaining, improving, extending, and in some cases calling into existence primary education, with a religious tinge, for the natives. There was an end to this collaboration when, as a result of the Government regulations of 1854, the principle was carried into effect that it was part of the duties of the Government to make provision as far as possible for a sufficient education for the native population independently of the religion professed and solely with the social object of spreading civilisation and general knowledge among them.

In the Government schools religious in-

A comparison between the chief points of the old and the new regulation shows but little difference. Neither in the old nor in the new was the right to subsidy acknowledged. This was only done in 1906 by the promulgation of the latest subsidy regulations which, originally intended for the entire Indian Archipelago, are provisionally, at the request of some missionary societies, restricted to Java and Madura, it being their intention that, instead of a uniform regulation, special regulations should be drawn up for particular parts of the Indies, taking into account the peculiar needs and requirements of those special regions.

For various parts of the archipelago special regulations have already been framed by the missionary societies in question, and are under Government consideration.

The influence exercised by the subsidy regulations of 1895 and 1906 on the extension of private education, both denominational and undenominational, will be seen from the figures in Table E:—

TABLE E.—NUMBER AND CHARACTER OF THE NATIVE PRIMARY SCHOOLS.

On December 31, in the Year	Java and Madura.				Outlying Possessions.				Total.	
	Public.	Private.		Public.	Private.		Public.	Private.		
		Subsidised.	Not Subsidised.		Subsidised.	Not Subsidised.				
1877	147	117	27	207	2	40		546		
1882	193	80	23	318	2	50		666		
1887	201	55	21	318	3	56		654		
1892	205	82	36	311	5	151		790		
		Under nomi- national.	On a Religious Basis.		Under nomi- national.	On a Religious Basis.				
1897	207	164	44	296	31	461	1,203			
	1st Class.	2nd Class.		1st Class.	2nd Class.					
1904	47	258	281	78	—	345	72	704	1,785	
1907	50	278	468	93	4	382	257	891	2,423	

struction was thus excluded, whilst to the missionary schools, where instruction was continued on the old footing, no further support was given by the Government. Since then the Government and the mission had been working side by side quite independently of each other. Not till 1889 was there any change in this attitude towards private education.

In 1888 the Parliamentary elections held in Holland gave the clerical parties the majority, and the Government which then came into power introduced new legislation for primary education which, breaking with the principle hitherto maintained, that not only should all education given by Government be undenominational, but also that no support to any Clerical instruction might be given out of the public purse, made it possible to grant subsidies to schools on a religious basis.

It was decided to make the principle adopted for Holland applicable for the Colonies likewise, both as regards native and European education. In 1895 fresh regulations for the grant of subsidies were framed in place of those which had been promulgated in 1874, and which made the grant of support to private schools dependent on the fulfilment, *inter alia*, of the condition that all religious instruction should be excluded.

From this statement it is likewise evident that the number of Government schools in Java and Madura, on the one hand, and the outlying possessions on the other, does not greatly differ. In Java undenominational private education is far in excess of religious. Many of these undenominational schools are indeed semi-official schools, inasmuch as they have come into existence owing to the initiative of European administrative officials. The same is true of many of the institutions in the outlying possessions. Religious private education in Java and Madura has as yet made no great strides. On the other hand it is of predominating importance in the remaining parts of the archipelago.

In these regions lie the great fields where the missionaries have been at work for a great length of time, the Batak countries, the South and Eastern Division of Borneo, the Minabassa and the Sangir and Talaud Islands, Amboina, &c.; here, too, they are now engaged in opening up fresh ground, such as Halmahera, Boenoe, New Guinea, &c. In the Christianised regions, no less than among the populations where the Gospel is first introduced, the school is, for the mission, an independent means for developing its influence to the full.

The present arrangement of native primary schools is not different from that resulting from the reorganisation in 1893. There are

now two kinds of primary schools, namely, the first and second class. The former kinds are found exclusively in Java and Madura, with the exception of a school at Palembang. The number of these schools now amounts to sixty-two. They are, in accordance with their purpose, established in the chief cities and centres of trade and commerce.

The anticipation that by these schools the need for the education of the better class natives would be satisfied has not been entirely fulfilled. Many of them have always endeavoured—and this is still the case to a

same time, in proportion as the available European staff allows, the introduction of Dutch into the remaining first-class schools will be continued.

In 1906, under the pressure of the then Minister of Colonies, Mr. D. A. Fock, the Indian Government made proposals to the home authorities for the increase on a large scale of the number of native schools of the second class in Java and Madura. On the basis of data collected with the utmost speed, though, as was found later, not always with the utmost accuracy, it was taken as

public second-class schools as their model. The former, however, are far below the standard of the latter. Among the missionary schools there are many which, although giving a social education of a less scope than the second-class, nevertheless fully provide for the educational needs of the population among whom they work.

Table E is a statement of the number and character of the schools, and Table F supplies the necessary data as regards the number and composition of those attending the school.

TABLE F.—NUMBER OF PUPILS IN THE NATIVE LOWER SCHOOLS.

At 31st De- cember in the year	In Java and Madura.																Outlying Possessions.																Grand Total.
	Public Schools.				Private Schools.								Public Schools.				Private Schools.																
	Boys.	Girls.	Total.	Free.	Boys.	Girls.	Total.	Free.	Boys.	Girls.	Total.	Free.	Boys.	Girls.	Total.	Free.	Boys.	Girls.	Total.	Free.	Boys.	Girls.	Total.	Free.									
Subsidised.				Not subsidised.												Subsidised.								Not subsidised.									
1877	12,533	28	12,561	2,195	5,665	1	5,666	343	872	—	873	115	14,006	—	14,006	2,063	94	—	94	—	2,702	—	2,702	2,702	36,082								
1882	16,171	43	16,214	4,106	3,112	1	3,113	429	504	—	504	118	18,604	—	18,604	2,663	61	—	61	—	1,504	—	1,504	1,504	40,270								
1887	18,950	77	19,027	4,711	2,420	1	2,421	373	704	9	713	201	21,088	5	21,093	18,363	147	1	148	?	1,985	120	2,105	463	45,507								
1892	22,302	244	22,546	5,027	4,659	12	4,671	531	1,809	15	1,824	262	22,819	7,320	30,139	3,851	187	38	225	86	3,697	1,025	4,722	?	63,987								
Undenominational.				On a religious basis.												Undenominational.								On a religious basis.									
1897	24,800	302	27,802	3,563	9,127	57	9,184	879	2,587	962	3,549	2,686	24,201	7,739	31,940	4,658	1,023	9	1,032	349	14,038	4,936	18,974	?	93,111								
1904	39,780	1,236	41,016	2,473	17,039	565	17,604	2,485	3,947	1,445	5,392	4,823	34,958	10,368	45,326	8,329	2,995	44	3,039	839	20,164	9,507	35,761	9,641	148,138								
1907	53,931	2,415	56,346	1,525	24,028	1,087	25,115	2,093	4,890	1,430	6,320	3,311	41,505	11,975	53,540	35,694	6,128	258	0,386	3,408	31,575	11,088	42,663	38,780	190,370								

TABLE G.—TEACHING STAFF IN THE NATIVE LOWER SCHOOLS.

At 31st December in the year	In Java and Madura.												Outlying Possessions.												Grand total.
	Private Schools.				Public Schools.				Private Schools.				Public Schools.												
	Teachers.	Assistant Teachers.	Pupil Teachers.	Total.	Teachers.	Assistant Teachers.	Pupil Teachers.	Total.	Teachers.	Assistant Teachers.	Pupil Teachers.	Total.	Teachers.	Assistant Teachers.	Pupil Teachers.	Total.	Teachers.	Assistant Teachers.	Pupil Teachers.	Total.					
Subsidised.				Not subsidised.				Subsidised.				Not subsidised.													
1877	112	107	182	401	122	22	—	144	24	—	6	30	100	142	73	315	2	—	—	2	23	27	3	53	915
1882	164	158	260	582	99	—	—	99	29	—	—	29	203	245	211	659	2	—	—	2	40	1	—	50	1,421
1887	197	245	241	683	24	9	34	67	15	9	10	34	232	333	157	722	3	3	—	6	54	—	1	55	1,807
1892	201	321	190	712	—	52	69	121	15	11	20	55	207	474	82	823	5	2	1	8	152	—	—	152	1,871
	Undenominational.				On a religious basis.				Undenominational.				On a religious basis.												
1877	205	460	140	814	164	33	56	253	14 (12)	45	33	92	276	552	123	951	31	6	6	43	438 (19)	26	22	768	2,602
1904	298	612	212	1,302	276	10	211	407	74 (23)	34	74	182	314	646	250	1,236	68	31	31	102	679 (9)	38	103	1,180	4,000
1909	327 (27)	830	198	1,382	476	8	307	873	93	52	84	229	405	748	311	1,405	223	17	61	301	887	329	146	1,302	5,612

the curriculum. On the other hand new subjects were introduced, such as are desirable for a more thorough preparation of the pupils for the office of native administrative official awaiting them. Among these subjects must particularly be mentioned the principles of jurisprudence, the State and administrative law of the Dutch Indies, and the principles of political economy. For instruction in these subjects a judicial officer is attached to the schools.

The difficulty of teaching these subjects in a native language resulted in Dutch being readopted as the medium in these subjects in 1900, and it was laid down that, save for a certain period of transition, no more pupils should be admitted who had not previously acquired a certain degree of knowledge of the Dutch language.

The name of the schools was altered to that of "Training Schools for Native Officials." They were divided into two departments, the first or lowest consisting of three, the second or highest consisting of four classes of one year; in the second division instruction was to be given in the principles of jurisprudence, the State and administrative law of the Dutch Indies, and political economy. On passing a successful final examination for transfer to the second division, a diploma was to be granted, and on successfully passing the examination after the entire course a final diploma. Owing to the limited number of pupils (sixty) in each of the three training schools, in conjunction with the five years' period of study, the yearly output of candidate officials was very small, and but few places in the various ranks of native administration could be filled by trained officers, whilst a thoroughly prepared and developed staff was urgently needed for the proper fulfilment of administrative duties.

In 1907 it was decided to extend considerably the existing training schools and to call into existence three new establishments of this character. To enable the pupils for these schools subsequently to be taken chiefly from the native first-class schools, where Dutch is included among the subjects, it was specified that to each of the existing training schools and those to be established a preparatory department should be added, consisting of two one-year classes in which, whilst education in the said native schools should be continued and to some extent widened, yet the chief education should be devoted to instruction in a knowledge of Dutch.

In the existing training schools the proposed extension has already been carried out. The new ones which are being established at Serang (Bantam), Madioen and Blitar (Kediri) are to be put into use in October, 1910.

A complete training school now numbers 140 pupils, divided over the preparatory department with two, the first department with three, and the second department with two classes of one year.

In consideration of a school fee not exceeding Fl. 10 per month the pupils receive instruction and lodging in the establishment; for food and clothing their parents must make provision; the necessary materials for study and writing are supplied free of charge. The housing accommodation is similar to that in the training schools.

In all existing schools and those to be erected the preparatory division is placed in a special group of buildings. The staff consists of a doctor of law, six European, and three or four native teachers.

As in the teachers' training schools, the instructors in the officials' training schools also reside, as far as possible, in their immediate vicinity.

Not only in Java, but in the possessions outside Java, the necessary education is devoted to training up a few native administrators.

In the autumn of 1910 a training school for native officials is to be opened in Macassar, and likewise a school for training native teachers, the two being intended to supply the Government of Celebes and subject territories and the residency of the South and Eastern Division of Borneo with officers and teachers suited for their task.

In the teachers' training school at Fort de Kock, meanwhile, a trial has been made of training young people to be candidate administrative servants. As the desired result was not obtained, because the issuing candidates (owing to the peculiar social institutions in the region of their origin) were seldom placed in any administrative position, this training was stopped.

All the pupils of this school, whose number is gradually being raised to a hundred, are now being trained as teachers. It is likewise intended that some of them, either immediately on completing their studies or after having been engaged some time in teaching, shall be placed in administrative positions.

In the said teachers' training school, a trial is now being made with the sons of Atjeh chiefs, of whom it may be anticipated that they will be called upon later to fill some offices of importance.

TRAINING SCHOOL FOR JAVA JURISTS AT BATAVIA.

Whilst the educational establishments dealt with above are intended to form capable native administrators with a good basis of knowledge, it was found to be needful at the same time, and also to be of great political importance, to make use of the services of the children of the country for the administration of native justice. To satisfy this need a training school for native jurists will be established in July of this year (1909) at Batavia.

The school will have a total capacity of seventy-two pupils, and will consist of a preparatory and jurisprudence department, each divided into three classes. For admission to the first class of the preparatory department it is required that the candidates should have successfully gone through a European elementary school. To this department are attached three European teachers, to the jurisprudence department three doctors of law, one of whom is the director of the entire institution.

The pupils, upon payment of school fees, according to a fixed tariff,* will receive instruction, board and lodging, medical treatment, in short, will be supplied with all their needs.

At the end of the six years' course the pupils shall pass a public examination. After obtaining their final diploma they are to be attached to the Court Registry Office of a Provincial Council, and there, under the supervision of the president of that body, initiated into the practice of the administration of justice. In their further career it is contemplated that, given sufficient capacity, they shall be successively appointed court registrar or clerk, member, vice-president, and president of a provincial council.

* In the highest class of payment these school fees amount to Fl. 50 per month.

SPECIAL SCHOOLS.

At Depok (residency of Batavia), Amboina, and Menado, schools for natives are found, at the head of which is placed a teacher for European education, who is further assisted by a native staff possessing some knowledge of the Dutch language. The instruction in those schools is given in that language as far as possible; certain hours are also set aside for Malay.

In the residency of the East Coast of Sumatra schools are established at Medan, Tandjong Balei, and Tandjong Poera for the children of prominent natives, which schools bear the names of "Delische School," "Asahansche School," and "Langkatsche School" respectively. At the head of these schools is a European teacher, assisted by teachers or assistant female teachers of the same class (European), and a native teacher for the Malay language. In these schools, Dutch is employed as the medium except for Malay.

Among private educational establishments mention must here be made of the board and day schools for girls at Tomohon (Menado), founded by the Protestant Mission, and the Roman Catholic educational and training institution for native girls at Langgoer (Amboina).

TRADE INSTRUCTION FOR NATIVES.

This instruction, up to now, has been almost completely in the hands of the missions. Mention should be made of the industrial school for natives at Modjowarno (Sourabaya), the handicrafts schools for natives at Kediri and Swaroe (Paseroean), the trade school for natives at Koewoe (Semarang), Na Roemonda and Lagoeboti (Tapanoeli), and Kakas (Menado). These schools, which, except that at Koewoe, have been organised by the mission, all enjoy a subsidy from the Treasury, except the trade school at Lagoeboti.

The Government at the present time, and only by way of trial, maintains the domestic industry school at Ngawi (residency of Madioen), where instruction is given in plating and clay, wood, leather, and bone work. This school does not turn out people able adequately to gain their livelihood with what they have learnt there, but its object is to promote domestic industry among the natives, and thus place an auxiliary in their hands for turning their leisure time to useful account.

Though trade instruction for natives has hitherto formed no object of Government concern, there will soon be an alteration in it.

An inquiry made by instructions of the Government in 1906 brought out the fact that in various centres of industry there is a great need for well-grounded native artisans, and that therefore very favourable results may be anticipated from training the native industrially, and that in any case this opens up new paths for him, which may be of importance for economic development. In consequence of the proposals made as a result of this inquiry, the establishment of three trade schools for natives has been decreed, which are to be erected at Sourabaya, Semarang, and Batavia. At the first and last-named places, the schools are to be opened in October this year, and at Semarang in October, 1910. In the trade schools instruction is to be given: (a) in carpentry and masonry, (b) smith's work and boiler making, (c) the trade of cartwright and farrier, (d) bench work and machine

metal work, (c) cabinet making, (f) rattan furniture making, (g) ornamental and other painting, (h) coppersmith's and tinsmith's work; each pupil receives instruction in one or more subjects. Facilities will also be given for qualifying as an electro-technical craftsman.

Instruction in the trade schools is in the first place to comprise the practice of the trades in question, but a small part of the instruction time is to be devoted to theory, drawing, and hand and linear drawing. The schools are erected and arranged for two hundred pupils; provision, however, is straightway made to allow of the increase of this number to about double as and when required.

At the head of each school will be placed a Dutchman, with technical qualifications, who must at least understand the Malay language. He will be assisted by the necessary European and native staffs.

The costs of erection and fitting out each school are estimated at Fl.100,000, whilst the fixed yearly outlays are estimated at Fl.37,000 per establishment.

For a comprehensive view of the costs in florins of the various sections of native education during the period 1877-1907, reference is made to Table H.

The exact figures for 1908 are not yet known, but it may with certainty be stated that these will be much higher than in 1907.

To give an idea of the great increase of cost involved in the extension of existing and the erection of new establishments for native education, which was started in 1907, and

will be for the greater part, but not quite, completed in 1910, there are given, in Table I., the estimated figures for the receipts and

expenses for the last-named year. For the first following years a further notable increase must be anticipated.

TABLE H.—COSTS OF NATIVE EDUCATION.

	Public Instruction and Special Schools.	Schools for training up Native Officers.	Schools for training Native Teachers.	Various Expenses.	Subsidies.	Super-vision.	Total Expenses.	Receipts.	Difference.
1877	442.6 0	-	346,514	13,888	30,531	47,565	881,118	53,378	827,740
1882	712,602	99,459	361,301	15,185	15,796	61,303	1,265,646	67,000	1,197,746
1887	746,763	66,638	185,539	11,966	10,570	56,774	1,078,450	78,946	999,804
1892	884,246	66,363	172,875	22,324	26,110	50,722	1,231,640	92,221	1,139,419
1897	974,650	77,251	133,956	22,287	50,224	113,816	1,372,204	116,574	1,255,630
1904	1,392,510	156,824	197,718	34,921	231,240	87,042	2,103,255	179,972	1,923,283
1907	1,943,111	176,402	195,128	59,349	353,979	119,940	2,847,609	169,256	2,678,353

TABLE I.—ESTIMATE OF THE COSTS OF NATIVE INSTRUCTION IN 1910.

Public lower and special schools, communal instruction in Java and Madura, and education of the people in Atjeh.	Schools for training up native officials and the sons of chiefs, and training centre for native jurists.	Training schools for native teachers.	Trade schools.	Super-vision.	Subsidies.	Various expenditure.	Total.	Receipts.	Difference.
2,438,000	216,300	219,500	83,000	143,600	418,600	51,200	3,570,200	296,200	3,274,000





MILITARY HOSPITAL, PADANG, SUMATRA WEST COAST.

HEALTH AND HOSPITALS.

ARMY MEDICAL CORPS.



AFTER the restoration of the Dutch authority in 1816 the Department of Public Health in Batavia and the surrounding lands was organised in 1817, and afterwards, in 1820 (Staatsblad 1820, No. 16 and 17), the first regulations were laid down by the Public Health Department of the Dutch Indies.

In these regulations a distinction was made between the Military Medical Department, the Civil Medical Department, and the Vaccination Department, which were dealt with under separate heads.

The Civil Medical Service was placed under a Commissary of the Civil Medical Service, who was in direct relation with the Governor-General and was likewise entrusted with the general supervision of cow-pox vaccination. At the head of this last department, which was under the superior authority of the above, there was an inspector of vaccination.

In 1827 these three departments were, probably for financial reasons, placed under one principal, namely, the Chief of the Army Medical Corps, the designation of Commissary of the Civil Public Health Department and Inspector of Vaccination being abolished.

The regulations then laid down (Staatsblad 1827, No. 68) remained in force until 1882, with various modifications.

In the last-named year the regulations of the Public Health Department, now still in force though repeatedly modified in various sections, came into operation (Staatsblad 1882, No. 97). They specified that under the superior authority of the Director of Instruction, Public Worship, and Industry, this Public Health Department was entrusted to the Chief of the Health Department in the Army, assisted by the regional or directing officers of health, to an inspector of the Civil Public Health Department, to the chiefs of local and regional administration, and to the so-called Public Health Cadres of Staff.

The duties of the service, both as regards its military and its civil section, and the

extent of the State supervision, constantly increased in the course of time, and more than once a lesser or greater need was felt for making the two chief sub-departments (Military and Civil Public Health) independent services with their own chiefs and organisations.

The scarcity of civilian medical men, and the necessity to which this gave rise of entrusting most of the services to military doctors, was always an obstacle to this separation.

The need for separation became more and more urgent, and at various times Government instructions were given in this sense to the medical officials. The proposals put forward, however, were all rendered nugatory by the difficulty of increased expenditure.

Finally, in 1906, a commission was appointed for preparing a reorganisation of the Civil Department of Public Health, which in 1908 sent in its report. This is now under the consideration of the Government.

In this report radical proposals are made for the entire reorganisation of the Civil Public Health Department, which is to continue to include the Vaccination Service.

The total separation of the Civil and Military Public Health Services is placed in the foreground, and this is used as the point of departure for an entire reformation in the service.

Very probably, therefore, we are at this moment in the Dutch Indies on the eve of great changes as regards the Civil Public Health Department in reorganisation and duties, which will undoubtedly enable that department the better to fulfil the present needs of public hygiene.

Probably this will direct more attention to the necessity of collecting trustworthy statistics, the almost entire absence of which, above all in the Civil Department, renders supervision so extremely difficult.

At the present time the Chief of the Army Medical Corps is still the Chief of the entire Public Health Department in the Dutch Indies. As regards the Military Service he is

the Chief of the VIth Division of the Department of War, and, as such, he is subordinate to the Commander of the Army and the Chief of the Department of War in the Dutch Indies.

As regards the Civil Public Health Service, he is the chief of this service in the Department of Instruction, Public Worship, and Industry, and is entrusted with the direction of this service, being, in this capacity, subordinate to the Director of Instruction, Public Worship, and Industry.

In both services the chief is assisted by one chief office, divided into two sections, which consists of medical men (directing and subordinate officers of health) and non-medical men (referendaries, clerks, and writers).

The Army Medical Corps is, under the direction of the Chief, in the hands of the Corps of Officers of Health, Military Apothecaries, and Military Veterinary Surgeons, which, being distributed over the various garrisons as far as the first two categories are concerned, also does considerable service to the Civil Public Health Department, in the absence of civilian doctors and apothecaries.

The Military Medical Service is under military regulations, and it takes account only of the needs of civil public health in so far as is compatible therewith.

It is divided into regional and local service, and the latter again into service in the hospitals, the garrisons, and in the field.

At the service of the Army Medical Corps there were, at the end of December, 1908, thirty-one military hospitals divided into six different classes, of which the chief are at Weltevreden, Tjimahi, Magelang, Sourabaya, Malang, Kota Radja, and Padang. Following these are the hospitals at Tjimahi, Magelang, Malang, and Padang, being modern hospitals built in pavilions. There are, in addition, forty-five permanent or temporary so-called sick wards (which do not possess an independent administration and only in part have their independent food supply).

These establishments are equipped with military and civil medical and nursing staff (Corps: Medical Hospital Service) according to an annually fixed distribution.

In the military hospitals, in so far as military needs allow, civilians may likewise be admitted. As regards Europeans specific rates are charged for this (for private persons, civil servants, and the poor).

With respect to the natives they are likewise admitted on the same conditions as regards poverty, provided there is no civil native hospital establishment in the locality.

The Army Medical Corps consisted, at the end of December, 1908, of:

- 1 Major-General.
- 2 Colonels.
- 6 Directing Officers of Health, 1st Class.
- 13 Directing Officers of Health, 2nd Class.
- 50 Officers of Health, 1st Class.
- 84 Officers of Health, 2nd Class.
- 1 Directing Military Apothecary, 1st Class.
- 1 Directing Military Apothecary, 2nd Class.
- 12 Military Apothecaries, 1st Class.
- 13 Military Apothecaries, 2nd Class.
- 6 Apothecaries' Assistants.
- 13 Subordinate Apothecaries' Assistants (1st, 2nd, and 3rd Class).
- 1 Directing Military Veterinary Surgeon.
- 1 Military Veterinary Surgeon, 1st Class, and
- 8 Military Veterinary Surgeons, 2nd Class.

The principal task of the Army Medical Corps is the care of the general health, both as regards the troops, encampments and permanent garrisons, as also in the field, the prevention and combating of sickness, &c., and the treatment of patients and wounded soldiers, horses and mules.

The results of this medical treatment as regards soldiers, horses and mules are reported every year in the *Statistical Review*, as also in the Contribution to International Military Medical Statistics.

The following table gives the total number of persons medically treated, and the percentage in relation to the average annual strength of the army:—

	Total treated.	Per cent.
1898	60,514 ...	146
1899	52,734 ...	127
1900	47,293 ...	121
1901	45,140 ...	124
1902	42,324 ...	114
1903	40,607 ...	112
1904	39,110 ...	106
1905	37,235 ...	102
1906	35,362 ...	99
1907	32,587 ...	96

The average number of persons treated per day in the hospitals in proportion to the average strength of the army (before 1902 there are no statistics of persons in military service treated) amounted as follows:—

	Per cent.
1902	7.60
1903	7.87
1904	7.02
1905	7.15
1906	7.96
1907	7.91

whilst the average length of treatment per patient amounted as follows:—

	Days.
1902	27.2
1903	28.5
1904	25.4
1905	26.4
1906	30.4
1907	30.9

The total number of deaths (including those not treated obtained from burial statistics), average per 100 men of the army strength

(for Europeans and natives separately and together), amounted as follows:—

	Europeans. Per cent.	Natives. Per cent.	Average. Per cent.
1898	1.3	0.99	1.1
1899	1.02	1.2	1.1
1900	1.04	1.07	1.06
1901	2.07	1.76	1.9
1902	1.65	1.60	1.62
1903	1.15	0.98	1.04
1904	1.02	0.94	0.97
1905	1.08	0.93	0.98
1906	0.92	0.77	0.82
1907	0.78	0.66	0.70

after a rise in 1901 and 1902 (chiefly due to cholera and beri-beri), is declining in a very considerable degree, whilst the number of disabled is increasing in an even greater degree, so that, nevertheless, the total losses on account of illness per year are rising. The total of losses by incapacity and death during the last few years, however, are far from attaining the figure from 1898 to 1902.

The statistics appended hereto showing the occurrence of the principal diseases during certain years in proportion to the total number of persons treated, demonstrate that the greatest number of sufferers were

TABLE Q.

	1900.			1903.			1907.		
	Europeans.	Natives	Total.	Europeans.	Natives.	Total.	Europeans.	Natives	Total.
Malaria illnesses	28.07	25.98	27	26.30	26.31	26.30	20.85	27.91	24.77
Cholera	0.02	0.01	0.02	0.08	0.02	0.05	—	—	—
Beri-beri	0.37	0.32	0.34	0.27	3.04	1.73	0.13	1.90	1.11
Syphilis and venereal diseases ...	28.43	17.25	22.73	27.01	15.60	21.05	28.40	12.75	20.20
Other general infectious diseases ...	0.08	0.49	0.73	1.88	1.43	1.71	3.61	2.24	2.85
Disorders of metabolism	4.12	5.00	4.02	3.29	5.32	4.35	2.55	2.42	2.48
Nervous disorders	1.80	0.93	1.25	1.87	0.55	1.17	2.11	0.54	1.24
Respiratory and circulatory diseases	3.59	7.06	5.36	2.86	7.34	5.21	4.52	8.12	6.57
Diseases of the digestive organs—									
Indian thrush (sprue)	—	—	—	0.02	—	0.01	0.03	—	0.01
Abscess of the liver	0.78	0.1	0.43	0.79	0.15	0.46	1.40	0.28	0.82
Other diseases of the digestive organs	11.90	5.60	8.74	12.00	5.00	8.32	10.00	4.43	6.00
Skin diseases	4.76	9.12	6.98	4.83	7.85	6.41	6.64	9.08	8.49
Recoveries... ..	90.60	81.07	90.66	90.34	88.76	89.51	92.00	80.16	90.48
Deaths	0.56	0.96	0.76	0.56	0.93	0.75	0.46	0.73	0.61
Number incapacitated from military service	2.09	4.36	3.23	1.22	2.93	2.14	1.21	4.48	3.02

The average number of men per 100 of the army strength incapacitated from military service by illness, amounted to:—

	Europeans. Per cent.	Natives. Per cent.	Average. Per cent.
1898	3.72	3.47	3.54
1899	4.6	5.2	4.8
1900	3.1	4.5	3.9
1901	2.64	3.48	3.17
1902	2.24	3.37	3.16
1903	1.83	2.72	2.4
1904	1.94	2.82	2.51
1905	1.85	2.00	2.04
1906	2.52	2.64	2.60
1907	1.65	3.51	2.92

The total average losses per 100 men of the army strength on account of illness amounted to:—

	Europeans. Per cent.	Natives. Per cent.	Average. Per cent.
1898	5.02	4.46	4.64
1899	5.62	6.4	5.9
1900	4.14	5.57	4.96
1901	4.71	5.24	5.07
1902	3.80	4.97	4.78
1903	2.98	3.70	3.44
1904	2.96	3.76	3.48
1905	2.93	3.02	3.02
1906	3.44	3.41	3.42
1907	2.43	4.17	3.62

It will be seen that both absolutely and relatively to the average army strength the total number of persons treated is constantly diminishing.

The average number of persons treated per day in the hospitals (subject to a small decline in 1907) and the average time of treatment, however, have risen since 1904.

The general mortality, on the contrary,

those ill with: Malaria, syphilis and venereal diseases, skin diseases (chiefly natives), diseases of the digestive organs, and diseases of the respiratory and circulatory systems.

Thus in 1907 the respective figures for these were: 24.77 per cent., 20.20 per cent., 8.49 per cent., 7.73 per cent., and 6.57 per cent.

The most serious illnesses to the army, i.e. the illnesses from which the greatest mortality was recorded, were, in 1907:—

General infectious diseases: 58 deaths, 0.17 per cent. of army strength (including syphilis and venereal diseases).

Abdominal typhus: 43 deaths, 0.13 per cent.

Pulmonary tuberculosis: 11 deaths, 0.03 per cent.

Malaria: 37 deaths, 0.11 per cent.

Diseases of the respiratory and circulatory systems: 29 deaths, 0.08 per cent.

Diseases of the digestive organs: 23 deaths, 0.07 per cent.

Metabolic disorders: 14 deaths, 0.04 per cent.

In proportion to the number of persons treated for these diseases, the percentages of deaths of these principal diseases were in 1907:—

Abdominal typhus	13
Pulmonary tuberculosis	11
Dysentery	2.9
Beri-beri	1.4
Pneumonia	9.3
Abscess of the liver	6.4
Other diseases of the liver and gall bladder	3.4
Malaria	0.5

whilst the total mortality in relation to the number of persons treated amounts to 0.61 per cent.

Beri-beri, which made such ravages in the army in former years, has fallen off greatly, and the numbers of those under treatment for this disease during the last ten years are as follows :—

	Europeans.	Natives.
1898 ...	106	1,117
1899 ...	113	1,350
1900 ...	108	1,606
1901 ...	136	1,652
1902 ...	209	1,532
1903 ...	49	509
1904 ...	75	959
1905 ...	54	738
1906 ...	20	340
1907 ...	18	310

For Asiatic cholera there were treated :

	Europeans.	Natives.
1898 ...	4	1
1899 ...	7	9
1900 ...	6	4
1901 ...	9	5
1902 ...	103	123
1903 ...	16	5
1904 ...	0	1
1905 ...	0	1
1906 ...	0	0
1907 ...	0	0

The illnesses most extensively treated, after syphilis and venereal diseases, is malaria. It occurs in India in all known forms. The percentage of malaria tropica cases is fairly large. Although tertian fever is extremely prevalent, quartan fever is very rare. The necessary garrisons in the coast regions, which are almost all malarial regions, furnish

the largest number of these cases, although it must be acknowledged that there is not a single garrison in the mountain regions in the Indies which is free from anopheles and malaria. The combating of the disease by the drainage of the soil as far as possible in the vicinity of the barracks, and the supply of klanboes (a sort of protection against insects), and at several points the erection of iron screens in the barracks, have had comparatively little success, and in 1898 general prophylactic measures were taken, the administration of quinine in certain feverish districts, and the systematic after-treatment of malaria sufferers in the other garrisons, with the necessary central measures of control, was begun in a more thorough way.

The other diseases are dealt with chiefly by hygienic measures, and their evident success has already been pointed out above.

CIVIL DEPARTMENT.

THE Civil Department of Public Health is, under the supervision or authority of the Director of Instruction, Public Worship, and Industry, conducted by the Chief of the Public Health Department, assisted by the Chief Office Staff and Civil Inspector of Public Health, the Regional Chief Officers of Public Health, and the Staff. Its *personnel* consists of European medical civil servants, officers of health entrusted with the Civil

The Veterinary Service is entrusted to the chief Government veterinary surgeons, but is under the direct orders of the Government Administration in each region. Moreover, there are special regulations in respect to combating contagious diseases of animals.

As regards the Civil Veterinary State supervision, the Chiefs of Regional Administration exercise direct supervision over the Veterinary Department and the hospitals in

A radical reorganisation, in which public medical officers of health are to take a more active part in this supervision, is included in the proposals above referred to at present before the Government. Upon the outbreak of epidemics the medical officers give notice to the Resident and the Medical Chief, the Residents to the Chief Officers of Health of the Region and to the Director of Instruction, Public Worship, and Industry. The regulations for the prevention and stamping out of epidemics are laid down in separate orders, in which likewise the chief part is allotted to the administrative officer.

These orders are those relating to quarantine, pilgrims, epidemics, and plague.

The first-named (quarantine) is applied to yellow fever, Asiatic cholera, small-pox; quarantine is also under the special plague regulations applicable to the latter disease.

At the present time there are quarantine stations, particularly for plague, in the chief harbours and harbour territories, on which temporary sheds are or may be erected. These have already been established for Batavia at Onrust, for Padang at Poeloe Pisang, for the East Coast of Sumatra at Poeloe Berhalla, for Riouw at Poeloe Loos, for the Western Division of Borneo at Padang, Tchar Bani, for Celebes at Groot Lev Ley. A complete revision of these regulations, on the basis of the Paris Convention of December 3, 1903, is in progress. Save for a couple of cases in 1905 on the East Coast of Sumatra, the Dutch East Indies have, in spite of the busy traffic with plague-stricken regions, remained free of plague.

The Pilgrims Regulations specify special ports of departure and entrance (Batavia, Padang, and Sabang) for Mahomedan pilgrims to Mecca, and regulations for the conveyance and treatment of these pilgrims.

The Epidemic Regulations apply to Asiatic cholera, small-pox, diphtheria and plague, and can also be declared applicable to other contagious diseases which might become a danger to public health.

The Plague Regulations are applicable to plague alone, in addition to the Epidemic Regulations. Both lay down rules with regard to declaration of cases, isolation, attendance, conveyance of sufferers, the disposal of the dead, and treatment of contaminated articles. This is also under revision.



SANATORIUM, TOSARI, EAST JAVA.

Public Health Service, private doctors having charge of this service (civil servants without the privileges of civil servants), and Government native doctors.

The Civil Veterinary Department is at present included in the Department of Agriculture, and is conducted, under the supervising authority of the Director of Agriculture, by an inspector and a number of European and native veterinary surgeons.

their region. In concert with the municipal and local medical officers, they take such steps as are required for the promotion of public health. The Chiefs of Local Administration likewise exercise this supervision as far as possible. Therefore the Public Health Department is chiefly in the hands of the administrative officials, and medical men, where they are present, play only an advisory part.

The geographical division of the State supervision of the Public Health Service is the same as that of the administrative division, namely, into regions, divisions, and subdivisions. The Civil Public Health Department itself, in addition to the central chief office (referred to above), is divided into Regional and Local Public Health Service.

The division into regions is, with one exception, entirely identical with that of the Military Department of Public Health, and each region in Java and some outlying possessions comprises several administrative regions or residencies. This Local Health Department also includes, as advisory bodies, the Medical Staff established at Batavia, Semarang, Sourabaya, and Djocja, consisting of the municipal medical officers and one or two chemists, with two or three deputies, under the chairmanship of the Chief Officer of Health of the region (in Djocja the Local Chief Officer). With the establishment of communal staffs to whom the duties of public health are entrusted, these medical staffs have in fact lost their *raison d'être*—the supervision of general local hygiene.

The local medical service further includes:—

1. The medical treatment of a large number of the European and native Government employés, active and pensioned, and likewise the poor, to whom the Government grants the right of free medical assistance.

2. The examination, and, if necessary, treatment of prostitutes.

3. Services for the purposes of justice (medical reports and post-mortem examinations).

4. The supervision as far as possible, in concert with the local and regional administrative officers, of the general state of public health, in compliance with the public health regulations, *inter alia* in factories and workshops (see "Safety Regulations") and vaccination.

Free medical treatment of Government employés, &c., is regulated by Staatsblad 1066, Nos. 213 and 214. The granting of furlough within the country and abroad has been repeatedly modified. The certificates attesting the necessity for furlough within the country on account of illness must preferably be issued by European doctors. Certificates emanating from native doctors are only valid when there is no European doctor in the locality. Those for leave of absence abroad and also for exemption from service can only be issued by certain medical commissions, and only subject to conditions as regards the place of residence laid down by the medical men having the case in hand.

Candidates for posts in the service of the country, before definite admission, are medically examined by civil commissions appointed by the Director of Instruction, Public Worship, and Industry, and established at Batavia, Semarang, Sourabaya, Buitenzorg, Tjimahi, Willem I., Djocjakarta, Soerakarta, Magelang, Padang, Fort de Kock, Kota Radja, Medan, Palembang, Macassar, Ambona, and temporarily at Bandjermasin. They consist as far as possible of the municipal doctors, supplemented by private doctors, and, if necessary, officers of health.

For the prevention of the injurious results which may follow from prostitution, examinations are held in the various localities and regions.

Prostitution in its entirety is under police supervision. The compulsory examination of prostitutes in brothels and without is entrusted to all medical men charged with the duties of civic public health. It is mostly held

once a week, and elsewhere in the large towns twice a month. Latterly, this journey of inspection for prostitutes outside the chief towns has been turned into account for holding polyclinics on behalf of the native population. Nevertheless, the attendance at these polyclinics is small, and the abolition of this examination of prostitutes is being considered.

Those prostitutes found to have contracted illness are isolated and treated in establishments intended for the purpose or in prisons.

In the reorganisation proposals, it is contemplated to do away with this examination entirely, as the little and doubtful use it possesses does not counterbalance the enormous loss of time it causes, which time is so necessary and could certainly be better used to the advantage of the general medical treatment of the population. Moreover, arbitrary detention, sometimes for fairly long periods, of the sick prostitutes, is not deemed to be in the spirit of our times.

Those duties performed in the interests of justice are regulated by legal enactments, and are carried out by the instructions of officers or assistant officers of justice.

A section of the duties of the Civil Public Health Department mentioned in paragraph 4 is the supervision of vaccination.

Vaccination was applied in the Indies as early as 1804. In that year Surgeon-Major Gaultre left for Mauritius with instructions to convey the vaccine from there to Java. By continually inoculating fresh slave children whom he had taken on board for the purpose, he succeeded in getting the vaccine to Batavia. Vaccination was first regulated there by Government decrees in 1820 and 1821.

These first regulations were further explained and modified by a large number of circulars, despatches, and decrees. All these had for their object the promotion of vaccination and re-vaccination, and the control of the vaccinators and vaccinated. It was repeatedly found, nevertheless, that the vaccine died out in a particular region, and was provided by sending preserved lymph from children or by sending over inoculated children themselves. This gave rise to great difficulties. Therefore, in 1860, the regular forwarding of preserved lymph from Holland was insisted on. The success of the vaccine thus sent was very various, however, so that in 1870 the wish was expressed that the Indies should have their own establishment and animals for the preparation of vaccine.

The endeavours to bring over the animal lymph from Holland and its inoculation into calves in the Indies were all failures, and this plan had to be given up for the time, until, in 1884, Schucking Kool, officer of health, pointed out that by retro-vaccination from children to calves, it was possible to produce animal vaccine quite identical with the genuine cow-pox. In 1890, it was decided definitely to establish a vaccine farm.

The present general vaccination regulations date from 1905 (Staatsblad, No. 285). These prescribe that the vaccination and re-vaccination shall as far as possible be carried out exclusively with animal lymph. The great advantages of the inoculation with animal vaccine (from the point of view of possible infection with syphilis, leprosy, &c.), had caused trials to be made as early as 1897, and others later in several districts. The success of these trials was the reason for their gradual extension, so that in 1908 vaccination with animal vaccine was carried on regularly in 84 out of 161 vaccinating districts in Java and Madura. Fresh detailed

regulations in connection herewith are in preparation, but for the present those of 1893 and 1900 are still in force, under which animal vaccine only plays the part of re-invigorating and renewing human lymph.

Vaccination is therefore practised chiefly from child to child, from arm to arm, but all preparatory measures are already being taken to alter this as soon as possible.

The whole of the territory under the direct administration is divided into vaccination districts, which mostly coincide with the administration districts of the residencies and regions. In each vaccination district, there is a vaccinator or assistant or student vaccinator, who must possess certain qualifications, and who is appointed by the Chiefs of Regional Administration.

Each district in Java and Madura is now divided by way of scheme into spheres and 8 to 13 sectors, a certain number of sectors being formed into one vaccination centre, which is visited by the vaccinator on the average four times a year.

The staff of vaccinators is settled by Government decree. It consists of: 260 vaccinators on the outlying possessions, 12 vaccinators for Batavia, 132 vaccinators for Java and Madura, 5 assistant vaccinators, 1 student vaccinator; a total of 410.

This staff has been repeatedly modified, however, so that the corps at the end of December, 1907, consisted of: 415 vaccinators and 105 students with the vaccinators.

The supervision of vaccination and the regular course of vaccination matters is entrusted to the Chief of Regional Administration.

The supervision of vaccination, from the point of view of general public health, is carried on by the civil and military inspectors of the Civil and Military Public Health Department; the supervisors of vaccination within their jurisdiction are the municipal doctors, the officers of health, civilian medical men, and native doctors, in so far as entrusted with public health duties. In Java and Madura the chief supervision is exercised by the Civil Inspector of Public Health.

During the last five years the following had been the number of vaccinations and re-vaccinations (the successful percentage being given):—

In Java and Madura:

Vaccinations.		
1903.....	733,476	86.8 per cent.
1904.....	773,154	91.3 ..
1905.....	793,521	91.2 ..
1906.....	850,471	86.4 ..
1907.....	748,339	91.8 ..

Re vaccinations.		
1903.....	1,994,601	55.9 per cent.
1904.....	1,922,218	58.2 ..
1905.....	1,860,394	58.2 ..
1906.....	1,788,860	57.7 ..
1907.....	2,004,549	57.1 ..

On the Outlying Possessions:

Vaccinations.		
1903.....	186,361	80 per cent.
1904.....	200,754	79.92 ..
1905.....	177,949	79.60 ..
1906.....	192,189	87.03 ..
1907.....	175,007	79.23 ..

Re vaccinations.		
1903.....	160,042	36.6 per cent.
1904.....	307,638	37.62 ..
1905.....	277,218	68.00 ..
1906.....	237,464	37.83 ..
1907.....	186,664	41.50 ..

The number of declared cases of small-pox

amounted in 1907 in Java and Madura to 5,179, of which 728 (8.9 per cent.) had a fatal issue, *i.e.*, to 1,000,000 inhabitants there were 272 cases, of which 24 had a fatal issue. On the outlying possessions 2,116 cases, of which 398 (19 per cent.) had a fatal issue, *i.e.*, to 1,000,000 inhabitants 289 cases, of which 55 had fatal results. These last figures, however, appear entirely untrustworthy, *i.e.*, the number of declared cases of small-pox represents anything but the number which really occurred.

Only the relative mortality (in proportion to the number of cases of illness) is of any value here. The mortality reached from 8.9 per cent. to 19 per cent. of the persons attacked. This comparatively high mortality is partly attributable to the unfavourable condition of the population here and there as regards vaccination, and to no small extent

The following are the statistics of small-pox in the army in the Dutch Indies, 1855-1904 :—

a morbidity of 0.2 per mille, and a mortality of 0.025 per cent.

As already stated, vaccination in most

Periods.	Average annual strength of army.	Average No. of small-pox cases per year.	Average No. of deaths from small-pox per year.	Percentage of deaths in relation to the No. of cases.	Average morbidity of army per 1,000 men.	Average mortality of army per 1,000 men.
1855-64 inclusive	22,538.2	51.3	6.7	13.1	2.27	0.297
1865-74 ..	15,216.9	66.1	9.8	14.8	4.34	0.654
1875-84 ..	24,225.6	45.7	2.8	6.1	1.88	0.118
1885-94 ..	32,128.6	35.1	2.0	5.7	1.09	0.062
1895-1904 ..	38,481.9	17.2	0.6	3.5	0.44	0.015

The rapid falling off in the average morbidity and mortality figures, the latter both in proportion to the army strength

districts is still carried out with human lymph, and compulsory vaccination has not yet been introduced. The new regulations already



1. MILITARY HOSPITAL, SOURABAYA.

2. STADS-VERBAND (FREE HOSPITAL), SOURABAYA.

3. NGAMPLAK HOSPITAL, SOURABAYA.

likewise to the almost complete absence of medical help.

More reliable data are supplied, particularly as regards the occurrence of small-pox in the army, by the army statistics. In 1889 vaccination was made obligatory by general order upon enlistment, and re-vaccination on renewal of enlistment in the army. Owing to this compulsory vaccination, the army, which always lives in the midst of the population, and in close contact with the people, and is frequently required in expeditions to act in regions where small-pox is endemic, showed a rapid improvement, and at present has very satisfactory returns as regards small-pox.

and to the number of cases, points to a continual improvement in the condition of the army as regards vaccination, which is the reason why the disease runs a favourable course. The difference in the condition of the population generally is certainly still great. There is, however, no possibility of comparing the reliable statistics on the one hand with the unreliable figures on the other. In 1904 (before that year statistics are wanting), when throughout the Indies there was a fairly serious small-pox epidemic, there were only twenty-four cases in the army, with a morbidity of 0.64 per mille, and not a single death. In 1907, there were eight cases, with one death, from pneumonia,

prescribe the use as far as possible of animal lymph, whilst compulsory vaccination (with animal lymph), the results of which are so evident throughout the army, is included among the proposals of the Commission already referred to, which is engaged upon a reorganisation of the Civil Public Health Department.

The more extensive use of animal lymph rendered necessary the gradual extension of the only lymph farm in the Indies. The wish manifesting itself for the universal use, if possible, of animal lymph, has once again rendered the entire reconstruction of this establishment necessary.

The vaccine farm was established in 1890.

and opened in 1891. In 1895 the Pasteur Institute was connected with it. In 1906 the entire reconstruction was determined on, and was carried out in January, 1908.

The new establishment, which is called the Landskoepokinrichting (East Indies Vaccine Establishment), at Tuin de Bus II. Weltevreden, directly adjoins the old one, the present Pasteur Institute. Both are divided in part only by a low wall, so that they continue to form a single establishment.

The new portion is built in pavilions, and consists of six different buildings, each having a definite purpose. It is an establishment which answers its purpose in every sense, and can compare with anything in existence in Europe.

The practical installation of the entire system has resulted in so largely increased a production of vaccine that within a short time it will be possible exclusively to use animal lymph in Java, Madura, and the outlying possessions. Even now this has been done in various residencies in Java and Madura. In some sub-divisions of the outlying possessions, however, communication is so rare and difficult that the exclusive use of animal lymph will for the present remain a pious wish.

The new investigations carried out, particularly in the direction of the preservation of vaccine, however, justify the hope that it will be possible at no very distant date to introduce animal vaccine everywhere. In only two parts of the archipelago, where the vaccination district consists of a few islands, the introduction of vaccine was a matter of such urgency that, notwithstanding the difficulties involved, every effort was made, and it was successfully effected.

During the last five years the vaccine establishment sent out animal vaccine as follows :—

	Vaccinations.
1903 a quantity sufficing for	1,450,908
1904 " " "	1,747,330
1905 " " "	1,480,793
1906 " " "	1,620,765
1907 " " "	2,039,405

The result in districts where animal vaccine was exclusively used was : For vaccination, 82.8 per cent. to 99.9 per cent. ; for re-vaccinations, 7.1 per cent. to 95.4 per cent.

Where animal lymph was not exclusively used the success was as follows :—

	1903 average 71.3 per cent.
1904 " " "	79.9 "
1905 " " "	67.8 "
1906 " " "	68.0 "
1907 " " "	72.5 "

At the vaccine establishment itself the result in 1907 was :—

Vaccinations of Europeans ...	100 per cent.
" of natives...	90.9 "
Re-vaccinations of Europeans...	47.1 "
" of natives ...	39.9 "

The success evident from these figures is certainly very satisfactory, and can be compared with that in the best known vaccine establishments.

Finally, as regards the quantity of animal vaccine to be produced, there follow below some comparisons and data.

In Holland there are 13 establishments, which together produce an annual quantity of vaccine sufficing for 200,000 persons.

In Germany there are 22 establishments, which together produce sufficient vaccine for 2,000,000 people per annum. The Rijksinrichting in Utrecht supplies vaccine for 48,000 persons per annum ; the establishment at Hamburg for 120,000 ; that at Munich (one of the largest in Germany) for 350,000. The

Vaccine Institute at Weltevreden, on attaining its full working activity, is capable of supplying vaccine for 3,000,000 to 4,000,000 people, i.e., about twice as much as the whole 22 establishments in Germany together, and 15 to 20 times as much as the whole of the Dutch establishments together, about 10 times as much as the largest establishment in Germany, and 70 times as much as the largest in Holland.

Therefore, no evidence is needed to prove that the Landskoepokinrichting at Weltevreden is among the largest in the world.

The total number of doctors engaged in the Civil Department of Public Health in the Dutch Indies (local service) amounted as follows at the end of December, 1907 :—

7 Municipal doctors.	
54 Officers of health.	
48 Private doctors.	
5 Lunacy doctors.	
9 Civilian doctors	} Acting in special civil institutions.
5 Officers of health	
1 Military apothecary	
142 Native doctors.	
125 Native student doctors.	
11 European midwives.	
73 Native midwives.	
58 Student midwives.	

At the end of 1907, moreover, the following were those engaged exclusively in private practice, i.e., not in Government service in the Dutch Indies :—

87 European doctors.
15 Dentists.
39 Apothecaries.
54 Apothecaries' assistants.
32 European midwives.
6 European midwifery pupils.
8 Native doctors.
25 Native midwives.

On the service of the Civil Department of Public Health there were at the end of 1907 :—

AS GOVERNMENT HOSPITALS OF A GENERAL CHARACTER.

33 Military hospitals where non-military patients may also be admitted.
7 Central civil hospital establishments.
49 Native civil hospitals.
79 Institutes for diseased prostitutes.

OF A SPECIAL CHARACTER.

2 Establishments for the insane.
1 Convalescent establishment for forced labourers and miners suffering from beri-beri, at Buitenzorg.
6 Institutes for leprosy.
1 Mendicity home at Semarang.
There are also two medicine and drug stores under military administration.

AS SPECIAL GOVERNMENT ESTABLISHMENTS.

The medical laboratory at Weltevreden (likewise a school of tropical diseases) ; the central chemical laboratory at Weltevreden.
The chemical laboratories attached to many of the military hospitals.
The Landskoepokinrichting already referred to, and the Pasteur Institute at Weltevreden. The school for training native doctors at Weltevreden.

Further, as private hospitals, mostly with Government subsidies :—

6 Sanatoria.
12 Missionary hospitals.
21 Hospitals on mining and agricultural estates.
13 Establishments for lepers.

In the Government civil hospitals there is a separate civilian medical and nursing staff specially allotted to each.

The establishments for prostitutes suffering from disease, have one attendant for each thirty patients or less. This staff, as far as possible, receive a practical training, and special qualifications are not required. The ordinary civil hospitals outside the chief towns are administered by European doctors or native doctors, and are under the direct supervision of the Chiefs of Local and Regional Administration.

In Government civil hospitals there are no facilities for the treatment of Europeans.

For the central hospitals in the three chief towns other rules apply, but these are also exclusively intended for non-Europeans. An exception is Batavia as regards prostitutes, as the latter, no matter of what race or nationality, are admitted into the hospitals there. This is likewise the case in the institute for sick prostitutes at Sourabaya and in the auxiliary town hospital at Semarang.

Europeans can be attended only in the military hospitals and in a few missionary and other private establishments, most of which are subsidised by the Government.

In order to bring out clearly the category to which persons treated in the civil hospitals belong, the regulations as to admission are given below.

The following are admitted free of charge :—

- (a) Prostitutes found to be ill ;
- (b) Injured and other sufferers brought in by the police ;
- (c) Lunatics who are taken into custody or awaiting their despatch to a lunatic asylum ;
- (d) Sick convicts if there are no facilities for treatment in the prisons ; and
- (e) Corpses found by the police, for burial.

Furthermore, armed police officers in places where there are no military hospitals, natives of the crews of the Government Marine, and to the extent of available space, native poor from among people engaged in Government employ, i.e., when they have been injured or fallen ill owing to their duty.

In consideration of a payment of Fl. 0.65 per day, private natives and natives engaged in private business may be admitted, if there is room ; this may, by way of exception, also include native members of crews of private vessels.

Although the establishments themselves and the staff of these establishments leave much to be desired, a thorough reorganisation of both occupies a prominent place in the Government proposals.

Complete general statistics of the results of treatment in these establishments are not available. The yearly reports are often very incomplete, or are not handed in at all. The particulars contained herein for nine years (for 1903 there are no particulars in the Colonial Report) are, therefore, anything but complete, and only present some interest as regards the proportion of the chief illnesses, and the mortality in proportion to the total number treated. The total number of persons treated has become much smaller since 1905 in the returns, as the number of persons treated in the hospital polyclinics have no longer been reported since that year. Consequently, at the request of the central commission for statistics in Holland, the European persons entitled to free medical treatment and the European poor are no longer included in them. Previously, the statistics comprised all persons treated by the Department of Public Health ; after 1904, they only comprised the patients belonging to the native Chinese, Arabic, and other populations, who were attended in the institutions.

The following table shows the comparative statistics of the principal diseases treated in the Government hospitals and missionary hospitals in certain years:—

of about the same extent in the military reports, and this, likewise, must be put to the account of Asiatic cholera in epidemic form.

follows:—Staff of professional attendants, nurses, &c.—73 Europeans, 240 natives; remaining staff—13 Europeans, 78 natives; total, 404.

	1898.			1901.			1905.			1907.		
	Patients treated.	Deaths.	Mortality per cent.	Patients treated.	Deaths.	Mortality per cent.	Patients treated.	Deaths.	Mortality per cent.	Patients treated.	Deaths.	Mortality per cent.
Malaria	186,287	9,187	4.9	215,224	14,414	6.7	9,030	302	3.2	9,833	251	2.5
Cholera	144	42	29.3	27,481	18,207	66.0	1	—	—	6	2	33.3
Small-pox	9,154	673	7.3	3,721	278	7.5	110	34	30.9	135	15	11.1
Beri-beri	7,119	585	8.1	4,616	348	7.5	2,813	139	4.9	1,301	123	9.5
Syphilis and venereal diseases ...	22,576	74	0.3	24,363	115	0.5	15,859	52	0.3	3,838	67	1.7
Other diseases	166,716	9,527	5.7	143,101	4,295	3.0	32,843	1,291	3.9	43,239	1,479	3.4
	392,096	15,088	3.8	418,506	37,747	9.0	61,062	1,818	2.9	58,412	1,937	3.5

MALARIA is the illness for which by far the majority came under treatment. The average for nine years is 4.3 per cent. of the total number of patients treated. After 1903, in 1905, 1906, and 1907, this amounted to 14.7, 14.1, and 16.8 per cent. The mortality in those years was 3.2, 3.6, and 2.5 per cent. respectively. To compare these with the military statistics we find the following position in those years:—

NATIVES AND AMBOINESE 28.52, 28.91, and 27.90 per cent., with a mortality of 0.73, 0.50, and 0.59 per cent., which certainly suggests that of the earlier figures many were treated in the polyclinic, and that only the very serious cases of malaria were admitted into the hospital.

A mortality five to seven times lower, with the number of persons treated about twice as large, in the army, indicates the earlier admission of the soldier suffering from fever into the military hospitals, and the greater success of the treatment there.

ASIATIC CHOLERA chiefly occurred in the years 1901 and 1902, namely, 6.5 and 6.4 per cent. respectively of the total number of patients treated. In 1903 it had again fallen to 1.2 per cent. Cholera during the first few years has been of very rare and sporadic occurrence in the Indies. The mortality ranges between 29.3 and 72.7 per cent. In the cholera years 1901 and 1902 it amounted to 66.6 and 67.5 per cent. respectively.

SMALL-POX occurred only to a large extent in 1899, namely, 6 per cent. of the total number of persons treated. The next highest years in this respect were 1898 and 1902 with 2.3 and 1.8 per cent. respectively. In 1904, moreover, there were many cases of small-pox throughout the Indies. Statistics are however wanting. The mortality ranged from 30.9 to 7.3 per cent.

BERI-BERI had previously come under treatment in 1 to 2 per cent. of the total number of cases. In 1905, 1906, and 1907 the figure was 4.6, 2.9, and 2.3 per cent. respectively, i.e., a slow decrease. The mortality ranged between 4.9 and 9.1 per cent.

The general mortality for the total of diseases treated is 3.8, 4.2, 3.9, and 9.0 per cent., 7.7, 3.3, 2.9, 3.8, and 3.5 per cent., showing a considerable rise in 1901 and 1902, which appear as epidemic years of Asiatic cholera. Comparisons with the military statistics (see above), of course, show great differences, but this is not surprising, taking into account the different category of persons to whom these statistics relate. To the rise of the mortality in the civil reports for 1901 and 1902 there corresponds a rise

Regarding lunatic asylums there are more complete and reliable statistics available. These institutions are two in number. They lie in cool climates, namely, in Buitenzorg and Lawang, at heights of 266 and 500 metres respectively above the sea level. They are intended both for Europeans and for natives, although at Buitenzorg there are most Europeans and at Lawang almost exclusively natives. Both are large modern establishments, large in comparison with the other civil hospitals, are quite luxuriously fitted, and certainly answer all requirements. They are being continually extended, as the sufferers require treatment for a fairly prolonged period and have to be accommodated meanwhile in other hospitals where their treatment leaves much to be desired.

The increase in the number of persons treated during the last six years is indeed very considerable, as it amounts to 45 per cent. of the initial number in 1902. It is, however, chiefly Lawang, and the number of natives requiring admission there, which has caused this increase. To give an idea of the size of the two institutions, statistics of the inmates according to race are given as at January 1, 1907 and 1908:—

	Europeans.		Natives.		Chinese.		Total.		
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	
Buitenzorg, 1907	236	89	185	198	27	13	448	300	748
Lawang "	56	1	450	172	66	8	572	181	753
Total	292	90	635	370	93	21	1,020	481	1,501
Buitenzorg, 1908	230	88	178	108	33	12	441	208	730
Lawang "	62	2	541	231	75	10	678	243	921
Total	292	90	719	420	108	22	1,119	541	1,660
	Per cent.		Per cent.		Per cent.		Per cent.		
Recoveries	2.8	3.06	5.6	2.3	5.9	—	4.1	—	
Improved cases	1.6	1.02	19.0	0.21	—	—	1.2	—	
Deaths	3.4	5.1	6.1	4.1	1.7	8.3	4.8	—	
Remained under treatment	92.7	90.8	86.4	93.2	92.3	91.6	89.9	—	

The sufferers admitted into these institutions, as far as possible, are kept busy with work, either very simple or more complicated. The number kept on this work in 1907 at Buitenzorg was: 20.7 per cent. of European males, 39.0 per cent. of European females, 91.7 per cent. of native males, 62.4 per cent. of native females. At Lawang: 10.0 per cent. of European males, 87.5 per cent. of native males, 80.5 per cent. of native females.

The administrative and attendant staff of these establishments amounted in 1907 as

Therefore, the attendant staff was 313 to 1,660 sufferers at the end of December, 1907, i.e., 1 attendant to 5 sufferers, a fairly big difference in comparison with the staff in the native civil hospitals, where there is about 1 attendant to 15 to 20 sufferers. The entire staff is as 1 to 4 to the patients, which is a ratio about equal to that of the military hospitals. For the purpose of exhibiting the results of the work of these establishments, statistics are given here for the last five years (for 1904 there are no data in the Colonial Report):—

Year.	Number of persons treated.	Cures.	Cases improved.	Total.	Deaths.
		per cent.	per cent.	per cent.	per cent.
1902	1,203	2.5	3.07	5.57	6.0
1903	1,354	3.6	4.8	8.4	3.5
1904	—	—	—	—	—
1905	1,602	4.0	4.8	9.7	2.4
1906	1,701	2.9	1.9	4.8	5.2
1907	1,878	4.1	1.2	5.3	4.8

General mortality statistics of the population outside the hospitals do not exist in the Indies. As regards Europeans, the declaration of death is at present obligatory, and it was enacted in 1908 for the first time.

under regulations published in the Staatsblad, that it is obligatory on medical men to forward declarations of the cause of death in sealed envelopes, for the purpose of compiling general mortality statistics for Europeans. The data on this point, hitherto contained in the annual statistics collected by the Civil Medical Department, are only of any value in the chief towns, and often they are not entirely trustworthy nor systematically prepared.

Below are given statistics regarding various chief towns for 1907. This year was a

particularly unfavourable one owing to the occurrence, in a violent form, of malaria on almost all coast stretches of Java and Madura, and also on Muntok and Tandjong Pinang, and as regards the general condition of health. In Sourabaya, moreover, small-pox made great ravages among the non-European population.

MORTALITY PER 1,000 INHABITANTS.					
	Euro- peans	Natives	Chinese	Arabs	Average
Batavia ...	28.2	57	34	31	49.6
Semarang	31	43		54	44
Sourabaya	30.2	62.5	45.3	57.5	63.6
Padang...			13.1		
Palembang					13.4
Muntok...		43.9			
Tandjong Pinang		50	84		
Koeta					
Radjia...			73		17.2

As regards natives, there are absolutely no statistics outside the chief towns, as even notification of death is not obligatory. Moreover, the declarations of illness and death during epidemics often appear on closer investigation to be entirely untrustworthy.

The larger private hospitals (missionary hospitals) mostly enjoy Government subsidies. There must be mentioned also the Tjini Institute in Batavia, the Soerabayasche Ziekenverpleging at Ngenplak in Sourabaya, the Petronelle Hospital at Djocjakarta, the Missionary Hospital at Madjowarno, the Planters or Delit Hospital at Medan, where, with the assistance of qualified European nurses, a large number of Europeans and natives are attended and receive polyclinic treatment. The medical treatment is given either by the special hospital staff or by the doctors attached to the hospital.

As regards the Government institutions of a special character which have not yet been dealt with :

1. MEDICAL LABORATORY. This laboratory has been in existence since 1888, and originated from the laboratory of the military hospital at Weltevreden, established in 1886 to promote investigation into the nature and cause of beri-beri, from which the army then suffered greatly. It was only called the Medical Laboratory when it became known as an establishment for investigations in the province of pathological anatomy and bacteriology. This was in 1901. It is established on the site of the above-named hospital, and forms a complete and independent part thereof. Owing to the many structures added, above all during the past few years, it has gradually become of considerable extent. The work of this laboratory includes the study and investigation of everything which may tend to increase knowledge in the matter of tropical pathology, both from a medical and from a military standpoint. The veterinary department has been transferred to the Department of Agriculture at Buitenzorg.

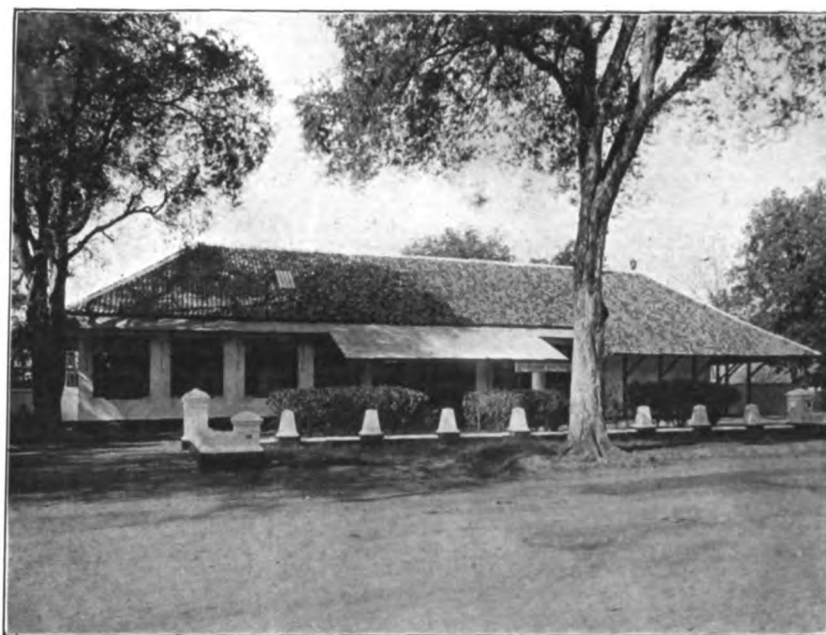
The work of the establishment comprises the holding of courses of lectures on tropical diseases both for military and civil practitioners. For the practical part of this instruction use may be made as far as possible of the patients in the large military hospital at Weltevreden. The medical staff consists of a director, a sub-director, and a lecturer on tropical diseases, all doctors.

The scientific investigations are published either after their termination or annually in the Tijdschrift van de Vereeniging tot Be-

vordering van Geneeskundige Wetenschappen in Ned. Indie (Journal of the Association for the Promotion of Medical Science in the Dutch Indies), and sometimes in foreign scientific journals.

THE PASTEUR INSTITUTE attached to the vaccine establishment has been in existence since 1895. Rabies is still of frequent occurrence in the Indies, both throughout Java and in various parts of Sumatra, Celebes, Borneo, and the Moluccas. The most recent regulations were those laid down by Government decree in 1906 for the prevention of and the stamping out of canine rabies in the Dutch Indies. The importation of dogs and cats was prohibited in the residencies of Madura, the Lampong districts, Bencoolen, the islands to the west of Sumatra, Djambi, Riouw and its territories, Borneo, Amboina, Ternate, South New Guinea, Timor and its territories, Sumbawa, Bali, and Lombok. Persons bitten by dogs suspected of rabies, when themselves not able to defray the cost, are sent to Weltevreden, at the public expense. Descriptions of and instructions

A full course of treatment in 1907 was gone through by 433 persons (*i.e.*, the course was completed in 1907), namely, 128 Europeans and 305 natives. Of these patients, ten natives, but no Europeans, died of hydrophobia, whilst there were two more deaths in which the cause of death was doubtful. Therefore, of 128 Europeans there was not a single case of death, and among 305 natives there were ten or twelve deaths. Of these, five or six were within the period after which the treatment could have been successful, so that in five or six cases the treatment must be described as unsuccessful, *i.e.*, 1.64 to 1.96 per cent. calculated for the number of natives, or 1.15 to 1.38 per cent. for the whole number of persons treated. The greatest mortality is in the case of children, particularly when seriously bitten in the face or on the head. The two adults who died had both been bitten in the face, and it was impossible to put them under treatment until nineteen days had elapsed from the bite. The result of the anti-hydrophobia treatment in this establishment, there-



PASTEUR INSTITUTE, BATAVIA.

for preserving anatomical parts of animals suspected of rabies are widely circulated, and these parts may for purposes of diagnosis be sent free of charge to the institute.

During the last ten years the following was the number of persons treated at the Institute :—

1898 ...	218
1899 ...	387
1900 ...	377
1901 ...	222
1902 ...	202
1903 ...	322
1904 ...	502
1905 ...	547
1906 ...	472
1907 ...	407

In 1907, 132 Europeans and 275 natives were treated. Of these, four discontinued treatment, whilst eight persons who went through the course of treatment entirely, or in part, were shown by the inoculation tests not to have been bitten by animals with rabies.

fore, must be regarded as highly satisfactory, and it is only the great distances in this Colony, the not always rapid means of communication, and last but not least, the gross indifference and fatalism of the population (who do not always wish even to be sent entirely free of charge and with free food to Weltevreden), which are the great obstacles to a speedier and more general treatment.

The school for training native doctors at Weltevreden was formerly used for the education of natives in surgery and medicine from the practical point of view only. Under the present regulations, it serves for the training of fully qualified native doctors. These native doctors are authorised to practise medicine in its entire scope in the Dutch Indies, and also pharmacy, unless at their place of residence separate provision is made for the latter. The former diawa doctors (native practitioners of lower degree) are authorised to practise medicine and surgery in the Dutch Indies. They may also pass the examination in obstetrics in the school and

are then qualified to practise that branch; they may also practise pharmacy unless provision is otherwise made at their place of residence.

After discharge from Government service (they are trained at Government cost and taken into Government service on passing their examinations), they may obtain from the Director of Instruction, Public Worship, and Industry a certificate authorising them to practise as native doctors or doctor djawa. They are then also allowed to practise pharmacy except in places where an apothecary or a European doctor is established.

The school has existed since 1809, and originally served for the training of native vaccinators. Later on, the latter received instruction in various branches of medicine. The object was to form a reserve, chiefly with a view to the vaccination system, from which vaccinators could be appointed, who might, in the meantime, give medical attention to the population from which they sprang. It was intended, that owing to their training, superficial though it was, in addition to their latter work as vaccinators, they should, like the former country surgeons in Holland, afford European medical aid to the natives where possible. Acquainted to a certain extent with the European medical arts, the idea was that they would spread the knowledge of and extend the application of these in the desah. This laudatory experiment, for which they were allowed a temporary increase of salary, however, was a failure, for many reasons which need not be gone into.

First placed independently under the chiefs of Regional Administration, they were in 1856, placed under the supervision of the medical officers entrusted with the public medical health service, who were instructed also to promote their further development. This was not a success, and in 1857 they were utilised in the endeavour to combat contagious diseases, where they were also found unsatisfactory.

In 1864, the training in the schools was modified, the number of branches dealt with was extended, and the period of training increased to three years. Stricter requirements were made before admission, whilst from then onwards the pupil, after having successfully completed his course, received a salary and the title of doctor djawa,

with a rank equal to that of a native administrative chief (assistant wedana of the first class).

In 1875, re-organisation again took place. The School was divided into a preparatory and a medical department, and the length of training in the former was raised from two to three years and in the latter to five years. The instruction was of progressively increasing difficulty, so that many of the pupils were unable to continue, and owing to want of natural capacity (often officially termed, "want of industry") had to be dismissed.

The salaries of doctor djawa were increased in order to secure a larger number of candidates in the school, and all sorts of extensions and improvements were made, until at last, in 1902, there was once more complete re-organisation. This, in the first place, was a change in the management and supervision. The branch of obstetrics was added as a department of study, and the title of doctor djawa was changed to that of native doctor (or physician).

What had hitherto been the doctor djawa school, became the school for training native doctors. Its administration was placed in the hands of a director assisted by a managing council, consisting of the professors, one of whom was a vice-director. The superior authority is no longer in the hands of the chief of the Medical Service, but under the Director of Instruction, Public Worship, and Industry. The period of training was fixed at three years (three classes) in the preparatory department and six years (six classes) in the medical department. In 1904, German was added as an optional subject for the pupils of the medical department. In this way, out of the comparatively small original institution, there has grown, gradually, the present great training school for native medical men, with full qualifications for medical practice both among Europeans and natives.

The native title of doctor carries with it the right of exemption in Holland from all examinations preceding theoretical medicine, so that the candidate who had successfully passed the doctor's examination in the Indies can likewise obtain the European qualification in the Netherlands.

All these improvements, including those in the position of the native doctors, have not been sufficient to increase the number

of students in the School so as to meet the great demand for medical men in the Dutch Indies. Once more a proposal has been made to the superior authorities in Holland to increase the salary of native doctors.

A princely gift made in 1808 by some old settlers in the Dutch Indies (Fl. 70,000 given by Messrs. P. W. Jansen, J. Nieuhuys, and H. C. van der Ebonert) enabled the construction of the present group of buildings to be carried out. In 1901, the preparatory section moved in here, whilst the formal inauguration and definitive final transfer took place in March, 1902. Thanks to this gift, the Dutch Indies possess, in the building of the school for training native doctors, an establishment which can safely bear examination and comparison with similar establishments in any other part of the world.

The building, intended for 200 resident students, has spacious lecture rooms, laboratories, dormitories and recreation rooms, and is built in the vicinity of the large Military Hospital at Weltevreden, which places at its disposal a number of patients for clinical instruction. Four lecturers are engaged in the preparatory department, and eleven lecturers and an assistant lecturer in the medical department, two of the preparatory lecturers occasionally instruct in the latter department.

Hitherto, the clinical teachers have all been officers of health attached to the military hospital. A large and well-attended polyclinic is conducted in the school building itself, and forty beds in the hospital are now available for the admission and treatment of persons from this clinic when found necessary.

There is a plan for erecting a great civil hospital, with a staff of civilian doctors, who should at the same time be clinical lecturers in the school for training native doctors, which will thus be more fully equipped in respect of cases and material for medical study.

Once every year, at the end of the course, a commission appointed by the Director of Instruction, Public Worship, and Industry, of which, in addition to the Director of the School and the lecturers for the sixth year of study, three doctors and one apothecary are members, holds the final examination (Native Doctors' Examination).





RAS RETIEES, BORO BUDUR

THE PRESS.

By E. F. E. DOUWES DEKKER, Acting Editor, *Bataviaasch Nieuwsblad*.



HE task is not so easy as at first it would appear to give a brief account of the birth, growth, and development of journalism in the Dutch Indies. In some quarters a notion prevails that the tone of certain journals is such as to warrant a policy of severe censorship, if not of entire repression on the part of the authorities, but in most cases such opinions are based on an extremely narrow-minded and prejudiced view of the situation. It is as a factor in the development of colonial politics that the Dutch Indian Press is most worthy of our attention.

In the first place, therefore, it is necessary to review briefly the organisation of the colonial system of government. Residents in Dutch Colonies are without representation in the general administration of their country, and until quite recently had no voice even in local or municipal affairs; in short, they have no citizenship. A feeling of restless discontent is bound to arise under such a system of government maintained, in spite of all protests, over so many years. The Dutch subject is daily reminded as plainly as possible that he is a "thing," *l'ailable et corvéable à merci*—at best only a sort of *corpus sine fectore*. What more natural than that a general dissatisfaction should find its expression in the columns of the public press? Furthermore, it should be borne in mind that, in this Colony, the Government have under their control a native population: a very submissive population it is true, and owing to its Mahomedan tenets, extremely fatalistic—of which, nevertheless, the intellectual portion—and this portion has increased enormously within the last few years—helps to spread the ruling spirit of discontent acquired from the Europeans among the un intellectual mass. Finally, it must be remembered that the greater part of the Dutch population, including the writer, belongs to that great category of people which is classified as "so-called Europeans." These are the Colonials, between whom and the *pur sang* European population there is a more or less sharply defined caste line of demarcation. They do not pretend to patriotism where patriotism means love for Holland, knowing as they do that they are only "subjects to" not "subjects of" that so-called Fatherland. These factors, into which, for the sake of brevity, I have not gone

deeply, have caused the Netherlands Indian Press to be almost diametrically opposed to that of the Mother Country. The journalist in Holland censures the violence of the Indian journalist, his ingratitude for the "many privileges granted to Netherlands India," and his want of appreciation of the good intentions of the Government. The Netherlands Indian journalist, in his turn, accuses his cold-blooded colleague in Northern Europe of want of courage, want of sympathy and understanding, and want of love for the colonies—the colonies, which are, after all, for a small country like Holland, of primary importance for the maintenance of its national existence. And who can say that the Indian journalist is wholly wrong?

Thus we see that the history of Dutch Indian journalism is so intimately connected with that of the Colony itself, that the two must be taken together, and it is a matter worthy of serious consideration that at no period of its existence was the Press so saturated with the spirit of opposition to Government methods, nor was that opposition ever so forcibly formulated as at the present time.

But to proceed with the more detailed review of the various stages in the development of the Colonial Press. The first experiment in the realm of official journalism was made under Governor-General Van Imhoff, in 1744, when the *Bataviaasche Nouvelles* was published. This premature journalistic infant, however, did not live long enough to supply much in the way of *nouvelles*, for the existence of so dangerous a prodigy could not be sanctioned by the authorities in Holland. Two years after its birth the *Bataviaasche Nouvelles* expired. Journalism was under a cloud. But the dawn came at last. Its first rays were, it is true, more feeble than those of a dipped candle, but it was the dawn, and in that dim grey light appeared a comet, *Het Vende Nieuws*, marking at least one small step towards a greater freedom. This phenomenon was superseded by the *Bataviaasche Koloniale Courant*, which, in the beginning of the last century, was itself replaced by the English official newspaper, the *Java Government Gazette*. When the Colony was returned to the Dutch, this gazette was continued under the name of the *Javische Courant*. Even at this period, however, there was no real newspaper press, in the ordinary accepted sense of the term. The *Javische Courant*,

the only journal in existence, was the official gazette of the Government, and only occasionally condescended to publish ordinary items of news. It was not until 1835 that what may be called the pioneer newspaper—the *Societate Courant*—made its appearance. But even while the Press began gradually to assume a position of more importance, it still remained entirely in the censor's power, and what this official tolerated was nothing more harmful than notices, regulations, instructions, notifications, varied by the appointment of a day for general thanksgiving or supplication, a lottery list, or a funeral oration. As recently as 1842, the Government forbade private printing. Still more recently, in 1847, the authorities ruled that the printing press should be used as a medium of publicity only by those to whom such privilege was granted.

Then came a change. In 1848, a clergyman, Van Hoevell, startled the peaceful rulers of Netherlands India out of their lethargy by his agitation for reforms and Liberty of the Press was the first and most important item of his programme. The immediate result was the adoption by the authorities of sterner measures of repression, and when, during this period of reaction, a certain Mr. W. Bruining, of Rotterdam, arrived at Batavia with a small printing-press, he was refused permission to use it. The officials apparently regarded him as the likely transmitter of a pestilential disease, and to try and rid themselves of the danger, offered him a free passage and a monetary compensation to return home. This ultra-conservative attitude of the Government appeared clearly in another instance. Dr. J. H. van der Chys, a gentleman possessing a true journalistic instinct, had been appointed editor of the official organ—the *Javische Courant*. He arranged to have certain items of news mailed to him from Holland, and, upon receiving them, published those which he considered sufficiently interesting. In those days, there was no railway to Buitenzorg, so that occasionally information regarding home affairs was public property in Batavia long before it came to the ears of the Government. This roused the indignation of the Governor-General. Mr. Van der Chys was severely reprimanded, and the home mail afterwards had to be sent post haste to Buitenzorg, so that it might be decided there what was fit for publication. In the meantime, however, Mr. Bruining had refused to return home, and after a long

struggle he succeeded, in 1851, in obtaining permission to publish a weekly paper, *Het Bataviaasch Advertentieblad*. It was a poor type of journal, little more than a purely advertising medium. Of matters of home interest it was allowed to publish only such as had appeared in the *Staatscourant*—the official organ in Holland—and, for colonial items, such as had appeared in the *Javasche Courant*. In 1852, the *Advertentieblad* was succeeded by the *Java Bode*, founded by Mr. Bruining in conjunction with Messrs. H. M. van Dorp (who acted as the manager), Van Hazen Noman, and Kolff. The *Java Bode* was first published twice a week, and the yearly subscription was G. 25. In 1857 it was taken over entirely by Mr. H. M. van Dorp. The paper was, of course, subjected to strict censorship, and the Resident of Batavia was instructed to watch its progress carefully. In 1861, a special edition was issued for circulation in Holland, and, eight years later, December 1, 1869, it was transformed into a daily paper.

The first editors of the *Java Bode* were the jurist, L. J. A. Tollens, the son of a Dutch poet, and W. L. Ritter, a novelist. They were also associated in editing the *Bianglala* (the Rainbow), a bi-monthly publication; while Mr. Tollens was, in addition, the editor of an annual called *Warnasarië*, and afterwards of the *Nederlandsch Indische Muzen Almanak*. Gradually, the number of publications increased, and as a natural consequence of competition the standard of journalism steadily improved. The first competitor to the *Java Bode* was the *Het Algemeen Dagblad voor Nederlandsch Indië*, the paper started by Mr. Coenraad Busken Huet, on the completion of his contract with the *Java Bode*, upon whose staff he was employed. The subscription for the *Java Bode* at this period was G. 40 a year, G. 10 less than the sum charged by its rival. Mr. Busken Huet was a clever and capable writer, but his journal soon had a strong competitor in the *Bataviaasch Handelsblad*, a daily paper published by the firm of Ogilvie & Co., and very ably edited by the jurist, Mr. J. A. Haakman. This paper, indeed, did finally oust the *Algemeen Dagblad* altogether, after Mr. Busken Huet had returned to Holland. The *Bataviaasch Handelsblad* flourished for a time, but Mr. Haakman died suddenly, and his paper did not long survive the loss of his inspiration. Both the *Algemeen Dagblad* and the *Bataviaasch Handelsblad* are now merely memories.

But an advance has been made to the eighties, and, in order to keep to a chronological review of the newspaper enterprise, it is necessary to go back a few decades. In 1851 a timorous entrance into the world of journalism was made by Mr. J. E. Herman de Groot at Semarang with the publication of a weekly paper called the *Locomotief*. The journal prospered exceedingly. In a short time it began to appear twice a week, and very soon afterwards obtained a recognised place among the daily journals. In 1861, the *Locomotief* was purchased by Messrs. G. Kolff & Co. In 1866, it passed into the hands of Messrs. Grivel & Co., and when under the guidance of that capable newspaper editor, Mr. C. E. van Kesteren, its circulation increased enormously. There was no competition to the *Locomotief* in the neighbourhood of Semarang, so that its annual subscription of G. 40 was maintained until quite recently. In 1852, the publishing firm of Leroy & Co. started the *Soerabajaasch Handelsblad* in opposition to the *Soerabaja Courant*, to which passing reference has already been made. Leroy's business, together

with the paper, was soon afterwards taken over by Messrs. G. Kolff & Co., but the enterprise proving less profitable than was expected, three years later it was transferred by Messrs. Kolff to Mr. W. Thieme. Mr. Thieme, who was materially assisted by his editor, Mr. Uilkens, was successful in placing the *Handelsblad* on a more profitable basis, and largely increasing its circulation. Mr. Uilkens was succeeded by Mr. S. Kalff, a clever writer, but no business man, and under his editorship the circulation dwindled somewhat. Mr. Kalff was followed by Mr. H. G. Bartels, a pensioned officer of unexpected journalistic ability, who soon placed the journal on its old footing. But Mr. Bartels "went too far," than which there is no greater crime in Indian journalism. A "tobacco king" demanded G. 75,000 damages; a lawsuit was commenced, and Mr. Bartels fled the country. Indian journalists can therefore proudly boast a fugitive editor. The present editor, Mr. Van Geuns, succeeded Mr. Bartels. He has maintained the high traditions of the paper as the organ of the great industries of East Java, and has placed his enterprise on a sound financial basis. After Mr. Eyssell's death in 1894, the *Soerabaja Courant* gradually fell from the high standard it had previously reached, until, in 1905, the publishers decided to go into liquidation and to issue a *Nieuwe Soerabaja Courant*, costing G. 24 per annum. The *Nieuwe Soerabaja Courant* is regarded as a continuation of the *Soerabaja Courant*.

Many papers, daily, weekly, and monthly, have been published in Java, but few of them have enjoyed a long career. One after another they have vanished from journalistic ken. In 1871, Soerakarta started the *Vorstenlanden*, which, after struggling bravely for existence, was metamorphosed into the *Nieuwe Vorstenlanden*, under which name it is still circulated. A competitor to the *Locomotief* was started in Semarang under the name of the *Semarangse Courant*, a title shortly afterwards changed to *Het Indisch Vaderland*. In 1880, this paper passed from the hands of that talented lawyer and journalist, Mr. Cohen Stuart into the possession of Messrs. F. A. R. Enklaar van Guericke and C. L. Diecke. When *Het Indisch Vaderland* ceased to exist, there was an excellent opening in Semarang for another daily paper which could compete with the expensive *Locomotief*. It was quite a long time, however, before a new venture was made. Towards the end of the eighties the *Telefoon* appeared. It was a cheap "telefoon," but it did not work properly, and the publishers decided to change its name. The *Telefoon* therefore became the *Semarang Courant*, and under the editorship of Mr. A. Scherer it enjoyed a short term of popularity. But it soon became evident that the capital was too small, and that the journal was almost doomed to die of anemia in consequence. In 1904, the property was taken over by a Mr. Castens, and under the joint management of Mr. Castens and Mr. Moreu the paper seemed to take a new lease of life. But it was too late—its fate was sealed. The *Locomotief* bought up its rival, and once more reigned supreme in Semarang.

In 1878, the firm of Gimberg Bros. & Co. issued the *Algemeen Advertentieblad voor Soerabaja, Oosthoek en Buitenbezittingen*, but this publication soon went the way of all flesh. The next year Mr. C. A. Vermandel ventured upon a weekly paper, the *Nederlandsch Indische Kakelaar* (Chatter-box), but this also perished in infancy. In the same year, the firm of W. Bruining & Co., at Batavia, published a specimen copy of a new paper, the *Telegraaf*, with an excellent

political programme, but public support was lacking. The early eighties witnessed renewed journalistic (and volcanic) activity in Netherlands India. In 1883, the small town of Cheribon started a paper, the *Tjerimai*, which has managed to keep alive to the present day, while 1885 saw the birth of two new daily papers. At Batavia, the *Bataviaasch Nieuwsblad* entered the lists under the guidance of that able journalist, P. A. Daum, and a very small paper, the *Thiemes Advertentieblad*, was published in Sourabaya. These two papers brought about a revolution in the Netherlands Indian Press, for they were the pioneer cheap newspapers. The *Bataviaasch Nieuwsblad* cost G. 20 a year, and *Thiemes Advertentieblad* was obtainable for G. 12 per annum. The *Bataviaasch Handelsblad* was ousted from the field, and, in order to cope with its new competitor, the *Java Bode* was compelled to reduce its price.

In the nineties, the publishers, Ernst & Co., of Batavia, began to distribute gratis an *Algemeen Advertentieblad*, which in the third year of its existence, when Mr. Hoepeling was its editor, proved a reasonable financial success. The publishers, however, soon wound up their affairs, thereupon the *Advertentieblad* was transferred to Messrs. Albrecht & Co., publishers, and became the *Indische Courant*. Left without an editor, the paper was dying a natural death, when Mr. K. Wybrands, formerly the editor of the *Sumatra Post*, of Deli, was placed in charge. The journal was re-christened the *Het Nieuws van den Dag voor Nederlands-Indië*, and has since achieved great success.

In the meanwhile a couple of journals were published in the interior of Java. The *Preanger Bode*, published by Mr. R. J. de Vries, was founded at Bandoeng in 1895. This paper has made considerable progress since it was taken over by the firm of G. Kolff & Co., and provided with an editor. In 1903, the first issue of the *Mataram* made its appearance at Djocjakarta. The *Mataram* is a daily paper which supplies very well the local demand for news.

The first Deli (Sumatra) paper, the *Deli Courant*, was established in 1884 by the tobacco king and millionaire, Deen. It started its career in the same way as the Java newspapers by demanding an exorbitant subscription for very little news. When, however, the *Sumatra Post* was founded in Deli, in 1898, the *Courant* had to reduce its price and improve its quality. The Press in Deli is now worthily represented by two good daily papers. Padang has also a good news service. The *Sumatra Bode* was established in 1893. It is an offspring of the *Padangse Handelsblad*, a paper which had previously ousted the *Sumatra Courant*. The *Padanger* was started in 1898, and there was also, for a time, a third paper, *Het Sumatraansche Nieuwsblad*. The existence of this journal, however, was very short indeed. The paper at Palembang called the *Nieuws en Advertentieblad voor de residenten Palembang, Djambi, en Banka*, was established in 1898. It is issued twice a week solely in the interests of the petroleum industry. In 1900 a somewhat similar journal with a very large name—*Nieuws en Advertentieblad voor Adich en Onderhoorig heden*—was started at Kota Radja.

The first daily paper published in Netherlands India, outside of Java and Sumatra, was the *Makassaarsche Courant*, founded at Macassar, the capital of Celebes, in 1894. The *Bandjermassingsch Nieuwsblad*, a bi-weekly paper, which records the chief happenings in the Southern and Eastern Division of Borneo, was established in 1902.

There are also two small periodicals in Menado.

Outside of the newspaper press proper, there are several technical periodicals published in the interest of and giving information regarding the tramways and railways, the imports and exports, trade, education, industries, agriculture, the medical profession, sport, &c. Speaking generally, the daily papers of Netherlands India are neutral in politics. There are now, however, weekly journals which do adopt a definite and distinct political programme. The development in this direction is quite a new one. At least I do not know of any such enterprise in the past, unless the *Indische Kakelaar*, of which mention has already been made, might be included in a category of political journals. Personally, I do not think it did belong to such class of periodical literature, and the satirical paper with

It is a militant publication edited by priests who are eloquent in the interests of Roman Catholicism, in a colony where indifference to religious matters is very marked. The Protestant paper is the *Banier*. Until the beginning of 1909 it was, however, known as the *Getuge*. Last year, a new weekly appeared, which promised to break new political ground, but *Jong Indie*, as the paper is called, has not yet succeeded in making its influence very greatly felt. It is managed by Mr. Th. Thomas, a well-known advocate in Batavia. One more paper must be mentioned, the only illustrated weekly in Netherlands India, which, in the absence of rivals, has flourished since 1904 under the management of the editor of the *Sourabajaasch Handelsblad*.

This portion of this rapid and by no means complete review of the Press may be closed with a mention of those publications which

in every direction within the last few years, but its rapid development, to a large extent may be attributed to the influence of the Dutch Colonial Press, which has had to bear the brunt of the long fight against stupid prejudice. The oldest Malay paper is the *Bintang Soerabaja*, founded in 1861. It is an organ that has always been opposed to the Government. Under the management of Mr. Courant this paper pays its way, and has some influence amongst the Chinese of the Modern Party in East Java. There is another Malay paper in Sourabaya, the *Pewarta Soerabaja*. This was founded in 1902, and is of the same persuasion as the *Bintang Soerabaja*. It is edited by Mr. H. Kommer, and has many Chinese readers. One of the most important Malay papers, however, is the *Kabar Permagadu*, the organ of the modern Chinese and Javanese party,



REPRESENTATIVES OF THE NETHERLANDS-INDIAN PRESS.

1. The late C. A. KRUSEMAN, Editor, *Java Bode*.
2. M. WEBER, Editor, *Sourabajaasch Nieuwsblad*.
3. DR. R. BROERSMA, Acting Editor, *Sourabajaasch Handelsblad*.
4. H. K. ZAALBERG, Editor, *Bataviaasch Handelsblad*.
5. H. M. T. RANKHOR, Editor, *Java Times*.
6. K. WYBRANDS, Editor, *Nieuws van den dag voor Ned. Indie*.
7. A. V. BOSHOUWER, Business Manager, *Java Bode*.
8. J. ADMIRAL, Manager, *Nieuws van den dag voor Ned. Indie*.
9. E. F. E. DOUWES DEKKER, Assistant Editor, *Bataviaasch Nieuwsblad*.
10. TH. THOMAS, Editor, *Jong Indie*.

articles on political subjects, edited by Dr. P. Brooshooft, one of India's ablest journalists at Semarang, did not live long.

To the political journals, for so I think we may distinguish them, belongs the weekly newspaper published by the "Indische Bond," a society of Colonial-born people, whose aim is to further the interest of such as decide to make Netherlands India their permanent home. The paper was first published in 1897 under the name of *Bondsblad*. This title has since been altered to the *Stem van Indie*. In 1902, the *Java Post*, a Roman Catholic weekly paper, made its first appearance at Buitenzorg.

cannot be dealt with separately, but which have taken their place at one time or another among the papers of Netherlands India - the *Midden-Java* of Djocjakarta, the *Oosthoek* of Probolinggo, the *Oprechte Buitenzorg* of Buitenzorg, *Jahus Adwerchtichblad* of Malang, the *Makassar* of Macassar, and others.

We might now for a moment turn our attention to the papers published in the vernacular, for, after all, these are far more important than any others to the native population, and have a vastly larger circle of readers.

The Malay Press has made great progress

which was established by a Chinese company in Batavia in 1902. It is edited by Mr. Pangemanann, assisted by a Chinaman, Gouw Peng Liang, and is probably the most widely read journal in Java. In the same year which saw the establishment of the *Kabar Permagadu* by the modern Chinese party, another opposition paper was founded in Buitenzorg. It is a weekly publication called *Ho Po*, and is edited by a Chinaman, Tan Tian Kie. The *Medan Pioner*, a weekly paper edited by a Javanese, Radan Mas Irti Adi Soerio, is the recognised organ of the native officials.

The chief paper in the vernacular at Semarang is the *Warwa Warta*, edited by Mr. J. H. Pangemanann. It is a paper entirely opposed to the Government, and on several occasions the editor has been prosecuted on account of his articles.

Three papers, all of which are in opposition to the Government appear in Padang (Sumatra). They are the five-year-old *Sinar Soematra*, edited by a Chinaman, Lim Soen Hin; the *Tjahaja Soematra*, founded in 1897, and edited by a Sumatran, R. Datoe Soetan Maharadja; and the *Pembrita Atjeh* edited by Dja Endar Moeda. The two first have great influence among the inhabitants of the so-called West Coast of Sumatra. All three are published twice a week. There is a fourth paper, largely read by the Malay population of the West Coast. It is edited by a Sumatran, named Soetan Negeri, and it is published under the title *Perja Baral*. These are the most important "progressive" papers, but there are many more daily and weekly journals printed in the vernacular, which do not cause the authorities any

Socloe Pengadjar, edited by the Javanese Raden Soso Danoe-Koesoema. These are all published in Batavia. Buitenzorg has a weekly paper, the *Tiong Hoa Wic Sin Ho*, founded in 1905, and edited by a Chinaman, Tan Soei Bing. It is one of the several organs of the modern Chinese agitation. In Solo (Soerakarta) are the *Taman Pewartu*, which dates from 1901, and is edited by a Chinaman, Tjhe Sian Ling, the Malay-Chinese weekly *Ik Po*, dating from 1904, also under editorship of a Chinaman, Tan Soe Djwan, and the *Djawi Kisworo*, edited by a Javanese, Dirdjoatmodjo, a Javanese Malay paper, founded in 1905.

Semarang possesses the *Slompret Melajoe*, edited by Mr. A. Appel, and an educational journal, *Taman Pengadjar*, edited by a Javanese teacher, Mas Boediardja. The *Tjahaja Timoer*, which is edited by a Javanese, Raden Djojosediro, was established in Malang in 1907. In Padang is published the *Warta Brita*, under the editorship of Soetan Radja Nan Gedang, a Sumatran. Siboga has the *Bintang Pasir*, founded in

stubborn fight for liberty of the Press, which has been and is still being contested, for victory is not yet. It must be admitted that the bureaucratic government is less tyrannical than heretofore in its dealings with those who dare to criticise its actions. But, nevertheless, the prosecution of journalists is an almost everyday occurrence. Indeed, in some quarters even now banishment is occasionally seriously advocated as the only punishment fitted to the crime of speaking one's mind. The writer of this article, among others, was judged to be worthy of this honour, not quite a year ago, by one journal. The following is a list of those journalists who have at various times been banished from the island:—

Bisschop Grooff	...	...	in 1845.
L. van Vliet	...	...	.. 1846.
H. J. Lion	...	...	.. 1851.
S. E. W. Roorda van Eysinga	...	...	.. 1864.
J. J. Nosse	...	...	.. 1864.
Dr. C. P. K. Winckel	...	...	.. 1873.

Such are the conditions under which the journalists in Netherlands India labour, and although the saying that "an editor in this Colony always has one foot in the penitentiary" is not free of exaggeration, there is a suggestion of truth in it.

I am glad and proud, however, to be able to affirm that, with a very few exceptions, each individual journalist in this colony does his work honestly and conscientiously, however thankless the task may sometimes be. They are maintaining the fight for freedom, despite the terrors of an antiquated law—a law designed to curtail their liberties, which has aptly been called a "work of darkness"—and they feel that they have their reward in the appreciation shown in their efforts, and in the encouragement they receive, from by far the greater portion of the public.

THE JAVA BODE.

During its long and somewhat chequered career, the *Java Bode* has had considerable difficulties to overcome, but while, for short periods, its progress and development may have been hampered by the organised opposition it has been called upon to face, the paper has ultimately always emerged triumphant, so that besides having the distinction of being the oldest, it is now generally recognised as one of the leading and most flourishing journalistic enterprises in Batavia.

In 1851, the Government gave their consent to the publication of the *Bataviaasch Advertentieblad*. The value of such permission, however, was utterly destroyed from any practical point of view by the many restrictions and regulations with which it was surrounded. The *Advertentieblad*, for instance, was prevented from making any announcement regarding the actions or the proposals of the Government before such information had appeared in the *Staats-Courant*, or Government Gazette, or in the official columns of the *Java'sche Courant*. In many other directions, also, its scope was limited, so that it remained always a very uninteresting and very anæmic journal. The *Bataviaasch Advertentieblad*, however, may be regarded as the progenitor of the *Java Bode*, by which it was succeeded in 1852. The *Java Bode* was established by Messrs. H. M. van Dorp and Van Hazen Noman, and was published twice, instead of once, a week as the *Advertentieblad* had been formerly. For five years the *Bode* was the only non-official organ in Batavia, and although the Resident exercised a rigid censorship over everything destined to appear in its columns,



OFFICES OF THE "JAVA BODE."

anxiety or displeasure on account of their publicly expressed opinions. Among these are the *Taman Sari*, founded in 1898, and edited by Mr. F. Wiggers, the *Pembrita Betawi*, founded in 1874, and edited by Mr. J. Hendriks, both published in Batavia; the *Pewartu Hindia*, founded in 1894, and edited by a Javanese, Radan Ngabehi Tjitro Adiwinoto, in Bandoeng, and in Semarang, the *Bintang Pagi*, founded two years ago, and edited by a Chinaman, The Mo Hwat, and the *Sinar Djawa*, founded in 1899, and also edited by a Chinaman, Sie Hiang Ling. The *Bintang Pagi* is especially popular with the modern Chinese on account of its violent opposition to the Manchus. All these are daily papers. They are very cheap, and the majority are very widely circulated.

Among the publications that appear once, twice, and three times a week, I would mention the *Poetri Hindia*, founded in 1907, and edited by a Javanese, Radan Tirta Koesoema, a paper for Javanese ladies, the *Socloe Kaddilan*, and the juvenile paper,

1907, and edited by a Chinaman, Lim Boen Sian. Manado rejoices in the *Pewartu Manado*, which was founded in 1904, and is edited by a Medanese, J. A. Worotikan, while Bandjermasin produces the *Pewartu Borneo*, edited by an Indo-Dutchman, Mr. M. Neys. In addition, there are three recognised Government organs printed in the vernacular, of which two are published in Batavia. The *Pantjaran Warta*, founded in 1906, edited by Mr. P. Salomons, and the missionary publication, *Benlara Hindia*, founded in 1901, and edited by a missionary, Mr. Tiemersma, and one in Macassar, the *Sinar Malahari*.

In conclusion must be mentioned the small English weekly, the *Java Times*, started a few months ago in Batavia by Mr. H. M. Rankilor. This is the only English paper published in the Dutch East Indian Possessions.

So ends the chronological history of journalism in Netherlands India. But there is still another history, that of the long and

it was certainly allowed a little more freedom, and was, generally speaking, a much more valuable news-sheet than its predecessor. In 1858 the business was taken over by Messrs. Van Dorp & Co., the partners in the firm being H. M. van Dorp, one of the original proprietors of the paper, and Mr. H. M. E. Fuhri. The editors were Mr. L. J. A. Tollens, the son of the Dutch poet, and Mr. Ritter, the author of several most interesting novels, who had for a long period made his residence in the Indies. Under the combined efforts of these two capable journalists, the *Java Bode* attained a high literary standard, but judged as a paper, the chief object of which should be to supply its readers with news, it left much to be desired. It was not until 1861 that a mail edition was issued. About this time the paper was enlarged, and it began to speak with more freedom and authority upon the topics of the hour. The change from the former policy of quiet submission was not welcomed by the officials, but they found it impossible to intervene. Criticisms, often very stringent in their tone, were passed upon the Government's methods of administration, and, among other things, the paper deliberately set its face against the system of slavery which flourished in Netherlands India at this period, and bitterly denounced it until its final abolition. Mr. M. J. van Gennep assumed the editorship of the paper in 1866, but he was succeeded, in 1868, by Mr. Coenraad Busken Huet, a clergyman, who, before coming to Java, had been engaged in editing the *Haarlemmer Courant*, in Haarlem, Holland. Mr. Busken Huet, for some reason or other, was attacked in a most unmerciful fashion by the other papers, and soon the rumour gained ground that the *Java Bode* was declining. Rumour, however, once again proved herself a lying jade, for it was just at this period when, in the eyes of the proprietors, the flourishing condition of the paper warranted its being transformed into a daily journal. In 1873, some differences of opinion between Mr. Busken Huet and the proprietors led to the editor's resignation. He was followed by Mr. H. B. van Daalen, a retired naval officer, who in his turn gave place to Dr. L. Brunner. The period of Dr. Brunner's editorship, from 1881 to 1885, was fraught with considerable anxiety to the publishers, for it was during this interval that the paper came into such sharp conflict with the Government as to bring it almost to an untimely end. One day Dr. Brunner published a leader entitled "Prang Tabil," girding at some so-called fanatic religious sect. His strictures so annoyed H.E. the Governor-General, O. van Rees, that he had the printing office closed up and sealed for some considerable time. Naturally such a *contrelamps* caused Dr. Brunner's retirement. Mr. H. B. van Daalen subsequently resumed the editorship for one year, until Mr. H. G. Bartelds came to relieve him, but the paper never seemed to recover from the ill-effects of the action of the Government until the arrival of Mr. J. H. Tersteeg. He was a man of great journalistic attainments, and, throwing himself heart and soul into his work, was successful in establishing the paper once again on a firm basis. Mr. Tersteeg retired in 1897, when Mr. Ketjen occupied the editorial chair for a few months, until Mr. C. A. Kruseman entered into office. Mr. Kruseman died at the beginning of 1900, and was succeeded by Mr. H. Doett.

HET BATAVIAASCH NIEUWSBLAD.

The birth of this paper was accidental. It happened in this way. In 1885, the publishers, G. Kolf & Co., started a Malay

daily newspaper, which, according to the editor, was to be a phenomenal success. It soon became evident, however, that this new organ was destined to die early. The reason was very obvious; there were no readers. The paper was a failure; its publication was stopped, and the publishers knew not what to do with the type and the other paraphernalia of a newspaper office. It is an ill wind that blows no one any good. Such is a true saying. Just at this juncture a Semarang daily paper, *Het Indisch Vaderland*, was suppressed, and the editor, Mr. P. A. Daum, prosecuted for alleged slander against the Government and insult to the Governor-General. In expectation of imprisonment, Daum came to Batavia, offered his services as an editor to G. Kolf & Co., and persuaded them to give him a trial. Thus on December, 1, 1885, under the management of Messrs. Kolf & Co., and under the editorial guidance of Mr. Daum, *Het Bataviaasch Nieuwsblad* made its debut. It had to fight its way on a field already occupied by full-grown rivals, but that small newspaper, whose letterpress covered only

was born in Netherlands India. He is a man of steadfast purpose, who has made good the lack of a sound early education and has raised himself to his present responsible position by untiring and persistent effort. In the absence of Mr. Zaalberg, Mr. E. F. E. Douwes Dekker undertakes the editorial duties.

HET NIEUWS VAN DEN DAG VOOR NED. INDIE.

Although the youngest amongst the Netherlands Indian daily papers, *Het Nieuws Van den Dag*, or the *Indian Daily News*, has now secured a recognised place for itself, and enjoys a considerable share of public support. The paper was first issued in January, 1895, as *Prange's Advertising Paper*, and was distributed gratis. A short time afterwards, this name was changed into the *Indische Courant*, and with the change in name came a change in policy also, for what had formerly been a purely advertising sheet now began to reserve more and more space for the publication of general news. It was



from four to eight pages, thanks to the tireless labour of its able editor, has now grown to an important organ of the Indian Press, whose articles compel attention. *Het Bataviaasch Nieuwsblad* inaugurated a cheap newspaper press in Netherlands India. Before it made its appearance the price of the newspapers was exceedingly high. The price of *Het Bataviaasch Nieuwsblad* was fixed at G. 20 a year, and, despite prophecies to the contrary, the innovation proved very successful. The progress of the paper has been unbroken and regular. As at present published it contains from four to eight sheets, maintains as large a telegraph service as any paper in Java, and a larger one than most, and is the only journal which undertakes the publication of a weekly political cartoon. On December 1, 1908, the circulation had reached five thousand copies daily.

Since the death of Mr. Daum the editorial chair has been occupied successively by the lawyer, Ph. de Laat de Kauter, J. F. Scheltema, D. A. Hoover, and F. H. K. Zaalberg. The present editor, Mr. Zaalberg,

not until April 1, 1900, however, when its present title was assumed, that the paper can be said to have entered the field of legitimate journalistic enterprise. Mr. L. P. J. Vermeulen was then the acting chief editor. On May 7, 1901, he was succeeded by Mr. K. Wybrands, who has remained in charge up to the present time. Mr. G. Wybrands, the first assistant editor, was attached to the staff in November, 1902.

The policy of the paper is the promotion of independent radical principles, and in the vigorous pursuit of that policy it has again and again come into conflict with the Government. On a number of occasions the editors have been prosecuted for the criticisms which have appeared in their columns, and as a result of one of the actions the chief editor had to suffer imprisonment for a period of three months.

During the eight years the *Nieuws Van den Dag* has been in existence as a regular newspaper, it has developed remarkably. In December, 1901, it had a circulation of about a thousand copies. The following figures show how this has gradually been

increased with each succeeding year:—December, 1902, 1,325; 1903, 1,939; 1904, 2,644; 1905, 2,720; 1906, 3,311; 1907, 4,157; 1908, 4,118.

These numbers may seem comparatively small to the European reader, but it should be remembered that the European population of the archipelago—including many Englishmen, Germans, and Frenchmen—is only 80,900. A circulation of some 5 per cent. of the total population would no doubt be welcomed by most of the papers in Europe as well as in America. The subscription fee of the paper was G.1 a month at the time when it bore the name of *Indische Courant*. This has now been raised to G.4.50 a quarter.

The advance made by the paper after it became known as the *Nieuws Van den Dag* very soon rendered larger offices a necessity, and, in 1903, the headquarters were removed to the Kali Besar riverside. The offices and store-room, alone, now occupy a space of 650 square yards, while the composing and printing shops cover an area of 800 square

yards. The printing shop contains two gas engines, two double and seven single presses, and fifteen smaller machines for various purposes. In its different departments, the paper employs altogether sixteen Europeans, seventy Chinese, and sixty native workmen.

terest the educated Hollanders in the English language and literature. It also endeavours in every way to assist English-speaking tourists, of whom there is a large and steadily increasing number.

THE SOERABAJAASCH HANDELSBLAD.

The *Handelsblad* was established in Sourabaya in 1852 by the publishing firm of Leroy & Co. It afterwards passed into the hands of Messrs. G. Kolff & Co. and was transferred by them to Mr. Thieme. Under the editorship of Mr. J. A. Uikens, the paper obtained a firm hold in the district. It declined somewhat whilst Mr. S. Kalf was

to sixteen pages of reading matter each day. The paper was founded in 1835, and published three times a week under the name of *De Oostpost*. It became known afterwards as the *Soerabaja Courant*, and blossomed forth as the *Nieuwe Soerabaja Courant* about five years ago. Among those who have from time to time guided the destinies of the paper, the present Governor-General of Netherlands India must be mentioned. His Excellency carried out the duties of editor whilst he held a commission as second lieutenant. Successive editors have been Messrs. Stocker, Roorda van Eysinga, Van der Woorda, Schemering, Reelfs, Van den Gheyn, Senr., Van den Gheyn, Junr., P. Brooshoofd, A. W. van Dalpen, D. Mounier, and Eyssel. Under Eyssel, the *Soerabaja Courant* flourished like a green bay tree, and the business was converted into a limited liability company. During the absence of Eyssel, the editorial chair was occupied by Mr. Scherer, "a man of many duels." Mr. J. Mulder then took over the responsibilities of editorship, and he was succeeded by the present owner of the paper, Dr. W. F. Schimmel.

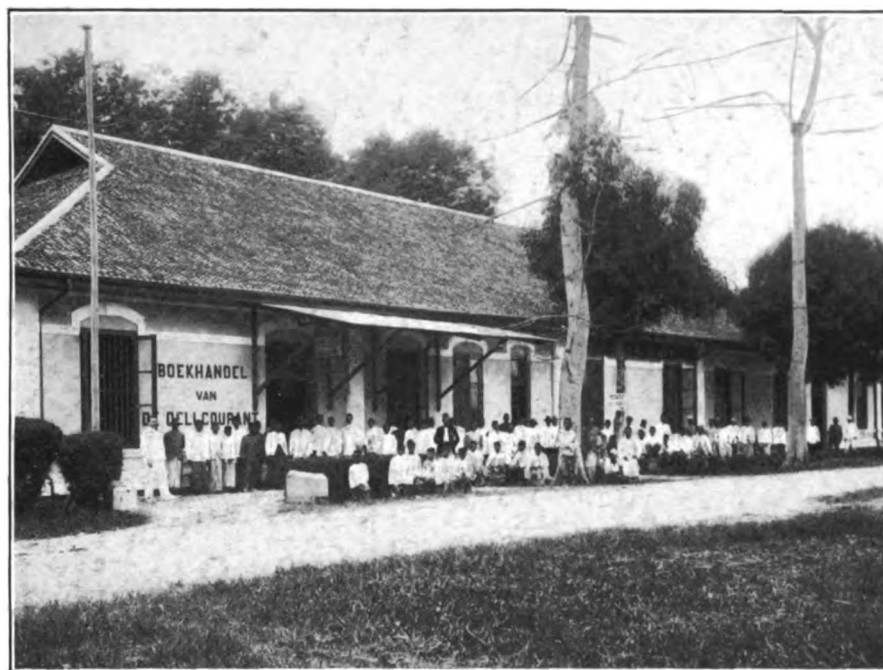
THE SOERABAJASCH NIEUWSBLAD.

The old *Thiemes Advertentieblad*, established some twenty-two years ago, was, in its youth, one of the leading dailies of Sourabaya and its hinterland. But, like so many other things in this country, where nothing is permanent, except the heat and the deficit in the Colonial Budget, the paper flourished for a time, and then gradually began to droop. Finally, Mr. Weber was offered the editorship and given a free hand in order that he might try to revive interest in the publication, and place it on a sound financial basis. On May 3, 1900, the old *Thiemes Advertentieblad* was converted into the present *Soerabajasch Nieuwsblad*. A new editorial staff was employed, and new type and modern printing presses were procured from Europe. Everything was done that could help to bring the paper absolutely up to date, and the result has been a large increase in the number of subscribers. At the present time the circulation is 1,200 copies a day, and it is steadily increasing.

Mr. M. Weber for some years held a commission in the army. During this period he found time to contribute several articles to sundry military periodicals, and in 1900 changed his sword definitely for the pen. From 1900 up to the present date he has been connected with a number of the leading journals in Netherlands India. In addition to his other duties, Mr. Weber is editor of the *Indische Auto*, the motorist organ for Java.

HET WEEKSLAD VOOR INDIE.

The *Soerabajaasch Handelsblad* endeavoured to establish a weekly humorous newspaper some twenty years ago, but the enterprise was not successful. Many efforts have since been made to produce weekly or monthly periodicals dealing, in a light and perhaps humorous fashion, with subjects interesting to residents in Netherlands India, but until 1904, when Mr. Van Geuns started the *Weeksblad voor Indie*, such efforts had always failed. In its earliest days, the *Weeksblad* had a very sober appearance, and entirely lacked the cheerfulness which was to have been its chief characteristic. Improvements, however, have gradually been introduced, and the periodical is now highly appreciated in the different parts of the archipelago where it circulates. The subscription for the *Weeksblad* is G.1 a month.



GENERAL VIEW OF THE "DELI COURANT" PREMISES, WITH EUROPEAN AND NATIVE STAFF.

yards. The printing shop contains two gas engines, two double and seven single presses, and fifteen smaller machines for various purposes. In its different departments, the paper employs altogether sixteen Europeans, seventy Chinese, and sixty native workmen.

THE JAVA TIMES.

The *Java Times*, the only English newspaper in Netherlands India, was established in 1908 by Mr. H. M. Rankilor, the editor and proprietor, who came to Java from Kuala Lumpur, in the Federated Malay States, where he had held the position of manager of the *Malay Mail*, the oldest newspaper in that country. The chief aim of the *Java Times* is to foster the good relations already existing between the Dutch and British communities. It supplies local news to the latter, few of whom read Dutch, and tries, by means of notes and articles on current topics—social, political, and religious—to in-

charge, but regained its old influence during the period of Mr. H. G. Bartels' editorship. The present editor, Mr. Van Geuns, who succeeded Mr. Bartels in 1900, came to Java as a Government schoolmaster, but he soon turned his attention to newspaper work, his first experience of Netherlands Indian journalism being obtained on the staff of the *Java Bode*. Under his management, the *Handelsblad* has continued to flourish, and Mr. Van Geuns himself has become recognised as an authority upon colonial matters. During Mr. Van Geuns' absence on furlough, Dr. R. Broersma, who, throughout his eight years' career as a teacher in Java has taken an active interest in journalism, occupies the editorial position.

THE NIEUWE SOERABAJA COURANT.

The *Nieuwe Soerabaja Courant* is a Liberal organ which gives its readers from twelve

A ladies' weekly (*Dames Weekblad*) was also founded by Mr. Van Geuns. It is edited by Mrs. T. ter Horst, of Djocjakarta, and published by the *Soerabajaasch Handelsblad*.

THE LOCOMOTIEF.

The *Locomotief*, the chief daily newspaper in Semarang, has a record of nearly sixty years of activity. It was founded in 1851, and for many years was without a rival in its own district. During this period it established itself very firmly, and has maintained its reputation and wielded a considerable influence among the reading public ever since. Mr. L. L. van Kesteren, one of the first and ablest of its editors, gave the paper its present character of a progressive political organ. It views the development of the Government in Netherlands India from an unbiased, critical point of view, and, during the last few years, has been the mouthpiece of those who advocate the increase of educational institutions for the native population, and the adoption of a policy for the uplifting of the subject races generally. Mr. Van Kesteren was succeeded by Mr. Daum, a journalist of considerable renown, whose pithy sketches are still widely read in the Dutch East Indian Possessions. Amongst other editors of the *Locomotief* may be mentioned Mr. Cohen Stuart, who afterwards entered the Government service, and finished his career in Netherlands India as Director of the Department of Justice; and Mr. Brooshooff, who was twice editor, and who still contributes articles to the paper from Holland. The present editor is Mr. Vierhout.

DELI COURANT.

The *Deli Courant*, one of the most widely read newspapers published on the East Coast of Sumatra, has been in existence for just upon a quarter of a century. It was established by Mr. J. Deen in March, 1885. At first the paper was published only twice a week, but, with the extension of the tobacco cultivation and the increase in the European population, the enterprise grew rapidly. In 1894 it was found necessary to enlarge the printing offices, and the business was thereupon transformed into a limited liability company, with a capital of G. 200,000. The best printing machinery was imported, and two years later the *Deli Courant* became a daily paper. Since then it has made steady progress, and the sphere of the paper's influence is continually widening.

SUMATRA POST.

The *Sumatra Post* is just over ten years old. It was established as a bi-weekly paper in Medan by Mr. J. Hollermann on December 2, 1898, and was transformed into a daily paper on April 1, 1900. The *Post*, although circulating chiefly on the East Coast of Sumatra, has many readers in Achin, the Straits Settlements, and in British North Borneo, and a considerable number of copies are also regularly posted to Europe. The paper has always endeavoured to remain a perfectly independent organ of public opinion. Its news service is good, and it has accredited correspondents in Batavia, Kota Radja, Amsterdam, The Hague, Brussels, and Paris.

The first editor of the paper was the lawyer, Mr. J. van den Brand. He was succeeded in August, 1899, by Mr. K. Wybrands, who carried out the editorial duties until May, 1901. Mr. A. J. C. M. Tervoooren was the editor from May, 1901, until June, 1904, in

which latter month the present editor, Mr. Ant. J. Lievegold, was appointed.

SUMATRA BODE.

The *Sumatra Bode* has developed from an advertisement sheet, distributed gratuitously, into a daily newspaper, for which the subscription is now Fl. 12 per annum. It is published in Padang by Mr. K. Baumer, who is assisted in his editorial duties by Mr. G. de Traal van Anckeveen, while Mr. C. van der Pol has been engaged as correspondent in Holland.

The paper is in sympathy with all institutions and public movements for promoting the welfare of the natives, for increasing their educational facilities, and generally improving their social status.

BINTANG SOERABAJA.

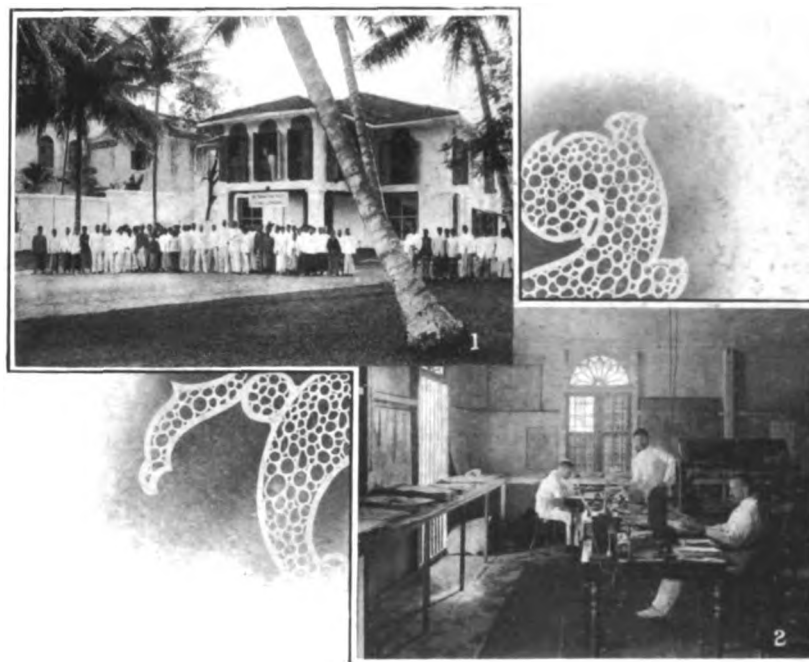
The *Bintang Soerabaja*, the oldest Malay newspaper published in the archipelago,

five years ago the policy of issuing three sheets every Wednesday and Saturday was adopted. The circulation is two thousand copies a day, and the subscription G. 20 a year. The articles are written neither in pure Malay nor in the ordinary "market jargon," but in a style that can be readily understood from one end of the Dutch Indies to the other.

The paper has had a long succession of editors, all of whom have been of Dutch nationality. Mr. V. L. Courant, who occupies the editorial chair at the present time, succeeded Mr. F. C. E. Bousquet in 1905.

THE PERTJA TIMOR.

The *Pertja Timor*—a name meaning East Sumatra—is the only Malay newspaper published in Deli. It is a weekly paper of some eight years' standing, and has a very wide circulation, including among its readers many of the educated Chinese. For a long while, the editorial duties were carried out by



DE SUMATRA POST.

1. EUROPEAN AND NATIVE STAFF.

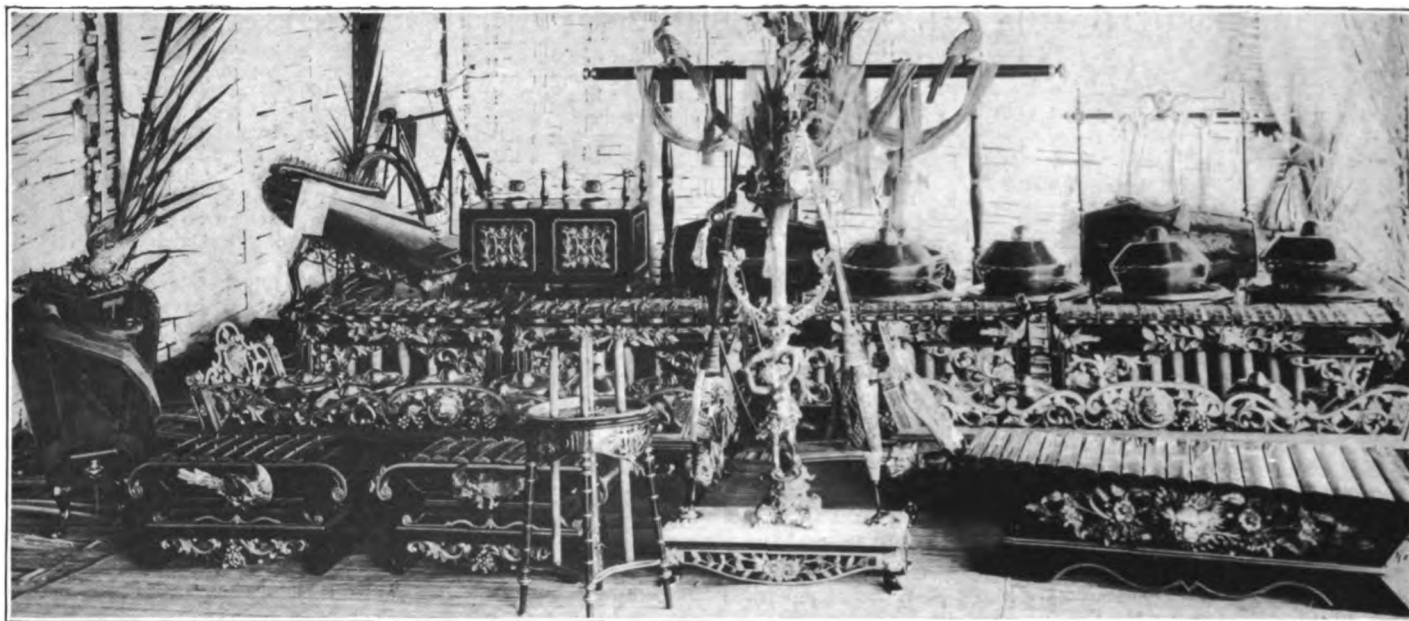
2. EDITORIAL OFFICES.

has had quite a varied career. It was established in 1861 by Messrs. Gimberg Bros., stationers, at Sourabaya; its name at that time was the *Bintang Timoer*; it comprised one sheet and was issued twice a week. The paper has passed through several hands. It was sold by Messrs. Gimberg Bros. to Mr. Kruseman, from whom, after a few years, it was purchased by Mr. Tjoa Tjwan Lok. In 1888 the name of the paper was changed to the *Bintang Soerabaja*, and with the change of the name seemed to come a change in its fortune. Up till this time the enterprise had not been altogether successful. The *Bintang Soerabaja* was turned into a daily paper, and the number of advertisements increased to such an extent that it had to be doubled in size, two sheets instead of one, while

Maharadja Salamboewe, a Malay of considerable ability, who had received an excellent education and possessed a sound knowledge of public affairs. His death in 1908 deprived the paper of a very capable servant. He was succeeded by one of his own countrymen—the present editor Mr. Moesa. The paper is published by Mr. J. Hollermann.

TJAHAJA SUMATRA.

Edited by a well-educated Malay, Datoek Soetan Maharadja, the *Tjahaja Sumatra* is a paper circulating on the West Coast of Sumatra, and is interesting on account of the insight it gives into the various currents of political opinion which flow beneath the even surface of native life. It is published by the proprietors of the *Sumatra Bode*.



JAVANESE METAL MUSICAL INSTRUMENTS (GAMELAN).

NATIVE ARTS AND HANDICRAFTS.

BY J. E. JASPER, Controllor of the Government Department for Native Arts and Handicrafts.



PROPOSE here to deal in succession with plaiting, weaving, "batikking," the working of precious and other metals, the potter's art, wood and bamboo carving, and other native industries.*

PLAITING is carried on practically throughout the archipelago; here and there it is done by men, elsewhere by women. Mostly the more difficult work, as, for instance, bamboo work, is done by the former.

In addition to bamboo, of which there are

The bamboo is split, divided into sticks, cut into shreds and worked by coarse and small knives, according to the quality of material to be produced. In order to obtain fine rattan shreds of uniform width, a wooden plank is occasionally made use of, to which two knives are fixedly attached opposite each other. Between the two knives the rattan strips are passed until a smooth and equal ribbon is made.

For the same purpose, use is made here and there in working up pandan leaves of the so-called djanget, a bamboo or wooden

stend) and the welingi (*Cyperus elatus* or *Typha angustifolia*).

In some parts, the bast is torn in thin strips from the stalks of some species of palms, which strips are then likewise used as plaiting material.

Among the fibres employed, I would here mention those of the lontar palm. These are flexible and tough fibres, which occur in the axils of the sheaths of the leaves of this palm, and which, owing to their suppleness, are excellently adapted to be plaited into round shapes, in which they are used for such different objects as hats and cigar cases.

Among the different kinds of stems, the so-called alemi in Celebes is an excellent plaiting material. This is supplied by the naturally glossy, yellowish stalks of a small species of orchid, which is somewhat rare in the Malay Archipelago.

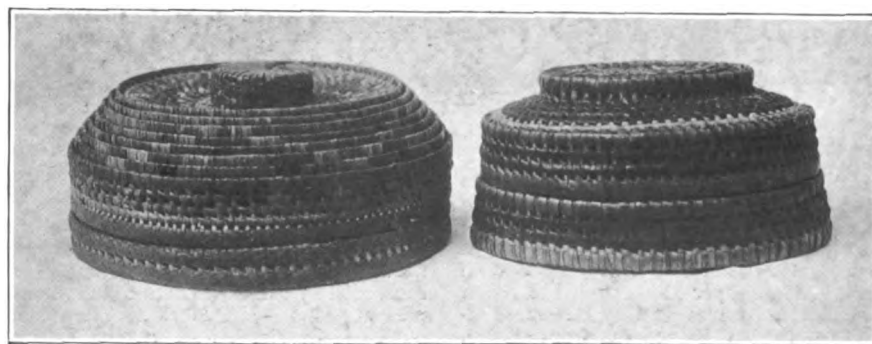
Another kind of stalk is the resam, a liana, possessing a principal rib which is likewise used in Palembang for plaiting work.

Peacocks' feathers were formerly largely in use in the residency of Rembang (Java) as material for the manufacture of cigar cases. The brilliant skin was stripped off in ribbons from the shaft of the feather.

Horse-hair is used chiefly in South Celebes in making hats and cigar cases.

For dyeing the plaited material, vegetable dyes are used, which are here and there replaced by more easily obtained and rapidly prepared anilines. Bamboo and rattan cannot be easily treated with dyes, but the latter material is coloured with djerenang or dragon's blood in Borneo, where the art of plaiting the rattan has reached a fairly high degree of development.

For pandan and palm leaves there are all sorts of vegetable dyes, of which only the chief ones will be mentioned here: For



PLAITED BASKETS MADE OF LONTAR LEAF FROM SOUTH CELEBES.

various species in the Malay Archipelago, use is also made of rattan, pandanus leaves, palm leaves and species of bast, fibres, plant stalks, feathers, hair and thread, as weaving materials.

* There is an exhibition of Indian arts and handicrafts, engraved brass-work, batik, &c., at Toko Tontoman, Gemblongan, Sourabaya, which is well worth a visit.

handle, in which small knives are set at regular distances from each other.

Of the palms most frequently occurring, the leaves of which are used as a plaiting material, we may here mention the lontar (the so-called tal tree) and the gebang (*Corypha umbraculifera*), whilst the grasses or rushes the most used are the mendong (*Fimbristylis efoliata*



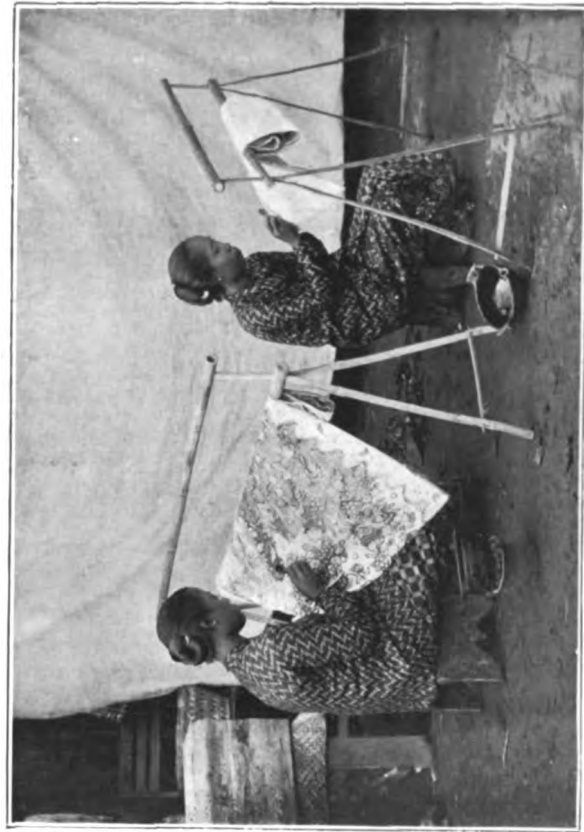
NATIVE WOOD CARVING.



SUNDANESE WEAPON MAKER.



SOURABAYA COPPER WORK.



HAND-PAINTING IN WAX ON CLOTH FOR SARONGS.

red, the young leaves of the djati tree (*Tectona grandis*) or the leaves of the nodja shrub (*Hyposesles laxiflora* or *Peristrophe tinctoria*), or the so-called sappan wood or the outer covering of the root of the mengkoedoe (*Morinda citrifolia*) or the so-

bending the strands to leave openings which together form a pattern. This makes the so-called trawang or openwork plaiting which is done principally in Central and North Sumatra.

Among the principal products of native

North Celebes, they are sometimes very prettily made of strips of the lontar leaf.

A native hat, generally cone-shaped or with a flat crown, is called in Java tjaping or tjapil, and is usually made of bamboo plaits. In Palembang, Sumatra, the people wear caps made of the above-mentioned resam, a thin kind of liana. The natives of Celebes wear songks, a cap made of the fibre of the lontar palm, and sometimes inwoven with copper, silver, or gold wire.

The Dayak of Borneo is very solicitous about his headgear; he paints it with dragon's blood, adorns it with feathers, and trims it with various pieces of stuff. The plaited hats worn by the women of Borneo are sometimes ornamented with figures of men entwined in them. If the hat is made of strips of leaves put together in segments, it often happens that the joins are covered with stitches of black and red thread, which are intended to resemble narrow and simple bands of rushes.

Among the mat-work of Java the tikars or mats of the island of Bawean (to the north of Sourabaya) are spoken of. They are plaited of strips of pandan leaf, either all white or in coloured patterns, and large quantities are sent away for sale. The making of these mats, which are very well known in the Dutch East Indies, yields large annual profits to the native population of that island. Less pretty, but just as well known, are the mendong mats in the residency of Bagelan (Java). I have already referred to the material mendong above.

In East Java, the rattan mats of Gresik or Grissee (near Sourabaya) likewise enjoy a good repute; they are, however, not plaited but threaded together in long strips on strings. Fine openwork pattern mats are encountered above all in Central Sumatra. To bring the openwork patterns of the artistic weft clearly into prominence, strips of coloured cotton



ASSORTMENT OF NATIVE PLAITED WORK.

called ambalan, cochineal lake. For blue and black, indigo is almost universally used, and the colour is fixed or darkened by plunging the leaf strips in mud for a time.

For dyeing yellow, the juice of the koenir or curcuma root is sometimes used.

The style of plaiting in the Indian Archipelago is generally the diagonal, *i.e.* with the strips running in a slanting, diagonal direction, instead of rectangular plaiting, where the strips run vertically and horizontally.

The natives use great variety in their methods of plaiting. It is not always "over one, under one," or "over two, under two," nor do the strips run always in only two directions. If the plaiting is set up with three initial strips, to which new strips are constantly added, we then get a kind of plait that is called in Sumatra gila or "fool," which is very much done in Celebes and the eastern islands of the Indian Archipelago. The upper surface forms a series of regular hexagons; this style is used principally for baskets and boxes.

The rattan plait-work of Singaparna (Preanger Regencies, Java) is done in a different way, two warp strips being bound together by being simply entwined with woof threads; and the first and second warp strips being thus fastened together, the third is then joined on to the second, and so on, the work being continued in the same way.

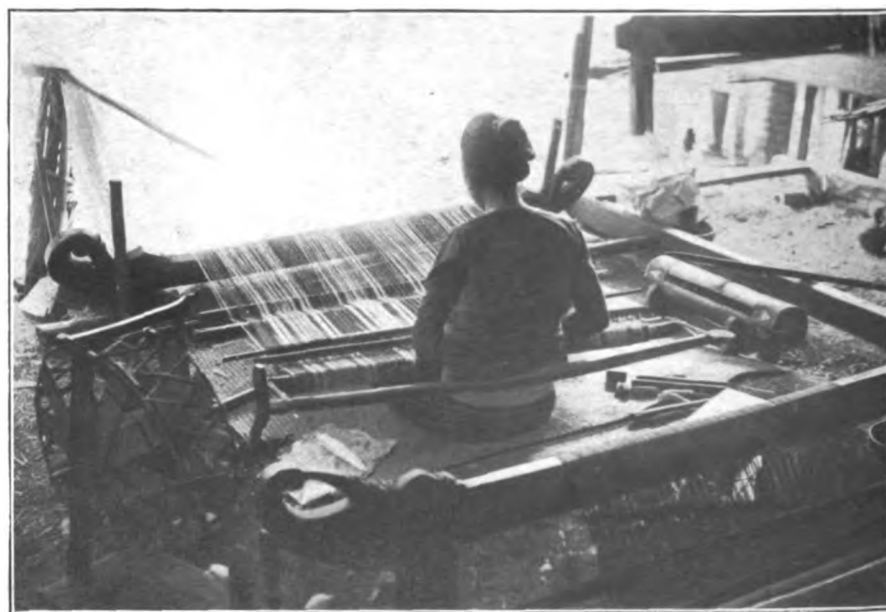
I mention this simple method of entwining to contrast it with the complicated methods that are also practised and, in South Celebes, are applied to the manufacture of parti-coloured bakoe-bodos or household baskets.

In the complex methods of entwining, the warp strips are also placed together and wound round two and two with woof strips. But after each winding the woof strip has to be drawn once round this bundle before proceeding to a second winding.

There are various ways of ornamenting this Indian plait-work. The simplest and often the most artistic is to use coloured and plain strips and to weave them together into a pattern. An easier way is first to make an ordinary plain piece of plaiting and then between the uncoloured strands to thread coloured ones so as to form a pattern. This kind of plaiting is called soelamman. Another way is by suitably

industry to which the art of plaiting is applied, we may mention the following:—Hats, matting, baskets, boxes, bags and cases, fly-nets and hoop-nets.

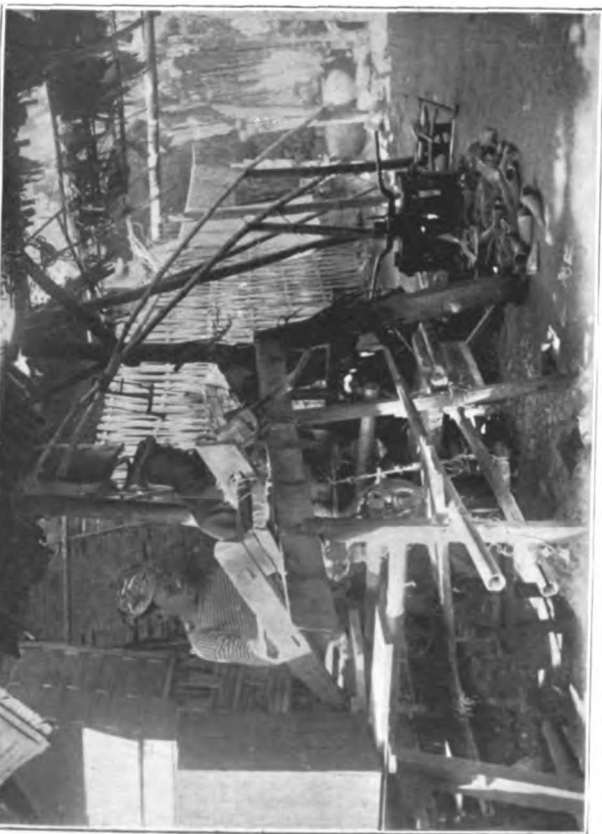
The best and finest bamboo hats come from Sangerang, in Java, where hat-making has been a flourishing industry for many years. The products of Sangerang are exported to Europe in large quantities. A Sangerang hat is begun in the middle of the crown and resembles an asterisk in plaiting, the various rays starting from the centre being the strands of the warp.



JAVANESE WEAVER.

The warp and woof strands can, of course, be made of any fineness to suit the customer; therefore the prices of hats range from Fl. 0.60 to Fl. 2.5 each. This shape is also made in the Djocjakarta Residency, but of pandan instead of bamboo, and in Fondano,

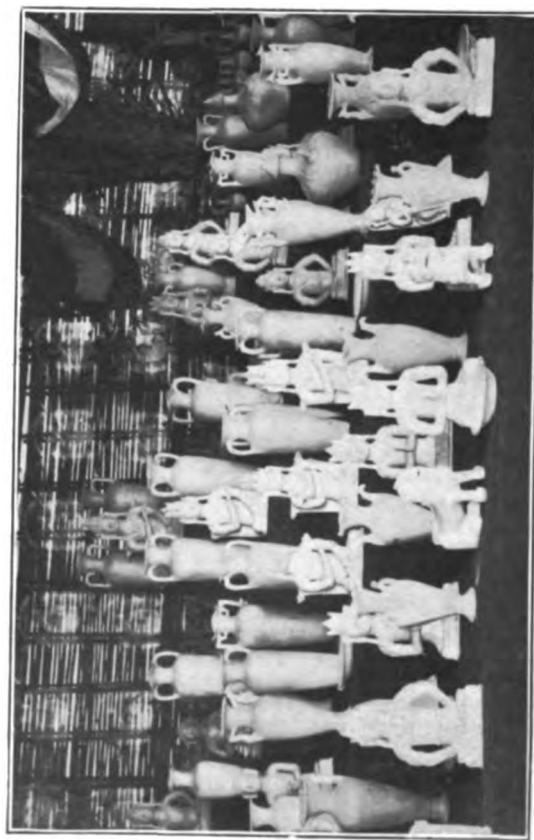
pieces of sheet copper, &c. are inserted at the back of the mats between the lining. The East Coast of Sumatra, where there are still Malay princes, supplies valuable mats which are built up in several layers, edged with silk and embroidered with gold and



MAKING HORN COVERS FOR GLASSES.



JAVANESE MAKERS OF "WAYANG" DOLLS.

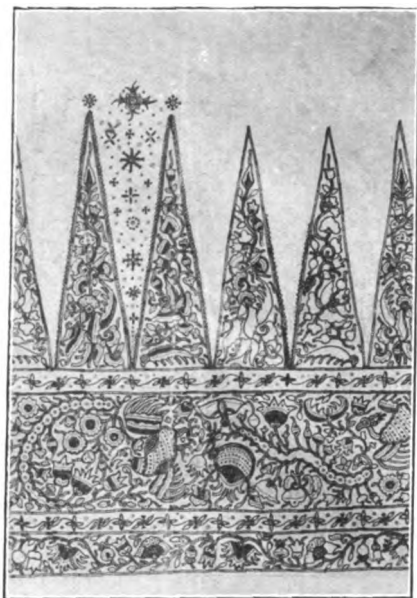


BODJONEGORO POTTERY.



NATIVE POTTERS AT WORK.

silver thread. On the most precious exemplars there is even appliqué work of chased gold plate. Finely-coloured rattan mats are found in the division of Koeala-Kapoeas, where they are made by the Dayak tribe of Biadjoes.



PATTERNS FOR MAKING SARONGS
(BATIK).

In the Minahassa (North Celebes), fine mats are also made, but in this case of strips of lontar leaf.

There is such an immense variety in the basket and box-work in the Malay Archipelago that only the most prominent specimens can be referred to here. For this purpose we have to go to our possessions lying outside Java.

The black and white bingka loras or baskets made from the stem of the Soradja (Central Celebes), the solid, fine basket-work of Borneo, the coloured bakoe-bodos or household baskets of South Celebes, the plaited work of Minahassa (North Celebes) and the Sangir and Talaud Islands, the pretty boxes of the Amboinese Archipelago and the artistically ornamented baskets of the Timor group of islands, the elegant fiery red bags and baskets of Bali and Lombok, all these sufficiently prove to the stranger the high degree of development to which the art of weaving and plaiting has attained among the natives in some parts of the Dutch East Indies.

Among the cigarette or tobacco pouches, those of Tapanoeeli (Sumatra) are pre-eminent; they are often ornamented with beads.

Peculiar in their kind are the plaited gantoengans, in which a kris, a plate, a saucer, &c., is hung up, and which are found in Sumatra above all. The use of plaited toedoengs as covers for dishes is generally known on the East Coast of Sumatra. "Fly covers," i.e., covers used to keep off flies, are here of practical use, but are nevertheless chiefly used as ornaments. To obtain particularly fine toedoengs or fly covers, they are ornamented with plaited work in patterns, and figures cut out in gold paper are pasted on. The festive dish which is offered to the guest is covered with a toedoeng of this kind, over which a small rich cloth edged with gold thread is laid.

A great deal of work is devoted by the Timor native to his fly cover. He ornaments

it by the insertion of additional coloured strips in such a way as to obtain the most complex patterns.

Of plaiting patterns there is likewise a great variety in the Indies. There are, however, some patterns which are very typical, among which I would class, for instance, the spiral pattern occurring in Sumatra and Borneo, and the hook or key pattern in use among most aboriginal peoples.

This last pattern, which was rounded off into a spiral, was, just like the meander, the most primitive linear ornamentation, the easiest to use, and out of which later on geometrical combinations sprang.

The prettiest and most complicated patterns are to be found in the plaited work of the Dayaks of Borneo. This tribe further attaches a peculiar superstition to some plaited articles. Thus, for instance, the adjat or basket plaited of fine rattan is covered with black figures on white cotton and filled with all sorts of viands which may be made use of in the hereafter, and is then placed with the dead.

The important part played by plaiting work among some tribes in the Malay Archipelago is evident from the fact that at Maros (South Celebes) and at Macassar, curative properties are ascribed to the tappéré or mat of the Berg or Mountain Regencies (South Celebes).

WEAVING.—Now with regard to weaving, which is practised almost everywhere by women exclusively.

The work, it is true, is done by men likewise in Central Java, where the weaving of the well-known stagens or belts is carried out by men.

The material used in manufacturing the various woven fabrics in the Indies is kapas or cotton, or fibres of other plants, as for instance, agave, koffo or wild pisang, widoeri, &c., imported, dyed and undyed, European

the various technical arts of weaving practised in the Dutch Indies. It will suffice briefly to explain how the woman in the Javanese village obtains her fabrics. The first treatment which the raw kapas (cotton-wool) undergoes is that the seeds are removed, which is done with a wooden press consisting of two cylinders, which can be screwed against each other in opposite directions. The kapas is beaten out into some uniformity with a beater of plaited rattan. The next operation is teasing. The Javanese woman does this by means of an elastic bow and a sort of twitcher or striker, by which the bow string, placed in the kapas, is set vibrating. In consequence of the short sharp jerks a few shreds of cotton-wool are continually drawn out and caught up. After this, the fibres, by means of a piece of bamboo, are laid in approximately the same direction, and finally the kapas is wound into rolls, from which the yarn can be spun.

The spinning wheel is very primitive, and is made of wood and bamboo.

After spinning, the resulting yarn is wound into skeins on a bamboo frame. These skeins are stiffened with rice paste and afterwards brushed. The threads are once more unwound, stretched into a chain or warp on a simple implement of wood or bamboo, and finally prepared for the loom.

A native weaver (woman) sits on a mat on the ground or on a bamboo bench. She is inside the loom, the threads of which she keeps tight with her body, which is between the breast-beam and the wooden leg-yoke attached to the latter. A loom in which the healds are connected to pedals is only in use in one region of Java, and in some Malay districts of Sumatra and Borneo. Latterly, attention has here been drawn to the improved looms with flying shuttles, as used



NATIVE COPPER WORK.

and British Indian cotton yarns, and also the agel or the leaf fibres of the gebang palm, Chinese silk yarns, and gold and silver thread.

It is not possible here to give a survey of

in schools of arts in British India. The trials of these made by native weavers have shown that they involve advantages and also drawbacks. Against the advantage that the weaving is more rapid must be set the drawback

that the warping of the yarns and the fitting of the healds takes longer.

The cotton fabrics most frequently used in Java are those known as loeriks in Eastern and Central Java, and the polengs of Western Java and Madura. They are made in simple check or striped patterns, which are of darker colours in Central Java than in the Eastern and Western districts of that island.

Reference has already been made above to the stagens or belts which are largely made in Central Java, and above all in the residency of Pekalongan. For the manufacture of this sort of fabric a special device with pedals is generally used.

Silk fabrics are rare in Java; they are made in the chief town of Banjoewangi, where the silk weaving industry was probably brought over from Bali and South Celebes.

Gold and silver fabrics are occasionally still made in Java to order. They are divided into songkets, which comprise complex patterns, and dringins, with simple strip patterns.

The songkets are mostly richly woven with gold thread, and form a bridal costume. They are made in the chief town, Sourabaya, and at Grissee or Gresik.

The dringins are sparsely ornamented with gold and silver threads, of which materials a single line is found here and there in the woof only. The best dringins are woven at Japara (Java); they are worn by rich men as belts, and by women of high social position are worn round the breast.

Here attention should be directed to the ikat fabrics; these are cloths of which the warp or woof threads already contain, before weaving, the figures in colours which are found on the woven material.

The figures are obtained by first tying up the warp or woof yarn at a given point, for instance, with strips of bast or bits of fibres, and afterwards dipping them into the first dye, for example, red. It need hardly be said that all that is wrapped round in this way (the Malay term for wrapping round is mengikat, whence the name ikat fabrics) is not touched by the dye; when the wrapping is loosened, therefore, the effect is obtained that on the red yarn white undyed spots are visible. The white figures are here and there dyed by hand, yellow, blue, and green, or, in order to obtain a second colour, the same process of binding up is used a second time.

This is a similar technical process to that



BALINESE SCULPTOR.

used for the British Indian tjindes, and was probably brought from Surat and Bengal to Java.

Therefore at Gresik (near Sourabaya) weaving mills are still found where tjindes

are made in the above described way; these are imitations of old tjindes.

While with the Gresik tjindes the woof is bound up at various points and dyed, in the preparation of the kains kasang or kains goebah this process is applied to the warp. The last-named fabrics are made now only in a few villages in the residencies of Preanger Regencies, Banjoemas, and Pekalongan, and were formerly used as draperies and curtains on festival and solemn occasions.

Almost throughout Sumatra the same technique is still applied, and is most developed in the Battak tracts of that island. Cloths of this kind, the warp of which exhibits very pretty patterns obtained by dyeing after local binding of the yarn, still form part of the costume of the native population. In the residency of Bencoolen the ikat cloths are known as kain tjowal, and in the residency of Palembang as tjinde. The Dayaks of Borneo likewise know how to obtain beautiful geometrical ornaments on their woven fabrics by applying this process. On the island of Celebes, the art of locally binding and dyeing the woof yarn has died out almost entirely; it formerly flourished in



A SINGAPARNA BASKET.

the northern part of the island, where the so-called kains bentenan are made, which have now grown scarce. But in Gorontalo (Celebes), the ikat cloths still occur under the name of kain patola, and they are made most beautiful of all in the island of Soemba, where in the warp-yarn figures of men and animals are made to appear, and on the island of Bali, where, as a result of the ikat process, the woof shows snakeskin spots.

The best songkets or gold and silver fabrics are made in the Menangkabau countries (Central Sumatra), on the East Coast of Sumatra, the Riouw Archipelago, and in Atjeh.

Many Atjeh cloths are dark purple or lambajong, and on this background the patterns, sometimes complex and formed of gold and silver thread, stand clearly out.

Of the silk fabrics mention should further be made of those of Batoe Bahra (East Coast of Sumatra), which are typical on account of their changing tints. These tints, named after flowers or insects with particularly striking colours, are obtained by using a warp and woof of two different colours.

The best pattern fabrics are those of the Sangir and Talaud Islands, where the population employ the koffo (fibre of the *Musa textilis* or wild pisang) as the textile material. In the designing of woven patterns the



MAKERS OF HORN COMBS.

Sangirese women have attained a high perfection; these woven patterns are first plaited of strips of the lontar palm leaf and the stiff midribs of coconut leaves. Above all, the patterns in the district of Kandhar Serani, in the island of Sangir, are fairly complex, difficult to make, and based on geometrical principles.

I shall below endeavour to describe as briefly as possible the method by which the Sangirese weaver prepares her koffo yarn. Koffo—at Sangir this material is called hoté—is the fibre of the bast of a species of banana or wild pisang, *Musa textilis* or *Musa mindanensis*, which is found on the island girdle from the Philippines southwards as far as the northern part of Celebes.

The bast shell, which has first been freed of the spongy inner substance, is drawn in strips through a primitive opening and scutching tool. The resulting fibres, after being teased and drawn out, are dried and once more teased, being then flexible, strong, and a brilliant white. The sorting of the yarns now takes place.

The sorter winds the top end of a sliver of koffo yarn about her arm, and holding the strands spread out in her left hand, she picks them out one by one, putting them between the fingers of her right hand in the order of their coarseness or fineness. There are four chief kinds of strands or threads; the largest is placed between the thumb and the index finger, the second between the index and middle finger, the third between the middle and ring finger, and the finest sort between the ring and the little finger.

The patterns are designed by the Sangirese weavers according to the models occurring on flowers, animals, &c., in short, according to what is observed by her in nature.

A legend relates that a certain Beki Langi, a far-sighted Sangirese woman, found out the first two weaving patterns, of which she is said to have observed one in the moon.

Much simpler are the cotton fabrics in the Macassar and Buginese countries of Celebes. For the most part, they show large varicoloured check-work produced by weaving together coloured warp and woof threads. More work is devoted to cloths in the island of Salejer, on which woof patterns are formed by a non-continuous warp.

LACEMAKING. — Among the subordinate branches of industry allied to weaving there

may be further mentioned embroidery, lace-making, the making of what is known as trawang work, and bead threading, which



A WOODEN LION (BALINESE SCULPTOR).

last industry is carried on by artificial means in Borneo and the Sangir and Talaud Islands.

Lace-making with cotton yarn and likewise the making of trawang work (open work) occurs very largely in the residency of Palembang. In lace-making the ordinary lace-cushion is used. The nature of trawang work will be evident from the following:—

From a fine piece of cotton tightly stretched in a wooden frame some threads are drawn out, in consequence of which the fabric becomes free and loose here and there. This renders it possible to bind the threads to each other at certain points in such a way as to make a trawang or open-work design, a close inspection of which shows the patience required for such a piece of work.

In weaving and kindred branches of industry, superstition also here and there holds sway.

Thus, in South Celebes it is the custom for the spools of yarn, when finished and ready, to be "put to sleep" for a night before the yarn is warped. They are placed gently on a mat, a little dry sand sprinkled over them, and a pot of incense burnt close to them. The woman who will have to do the work of warping, when putting the yarn to sleep, spreads her hands out over the spools and murmurs her prayer, which, when translated, reads: "My little morsel of yarn! Pray be not insufficient, let something of you be left over always. May you be like unto a sea that never dries, and unto a plain which the eye cannot measure, in order that I may still often use you."

BATIKKING is best practised in the principalities of Java. There is great variety in the processes and dyeing methods adopted, but the most usual method is briefly as follows:—

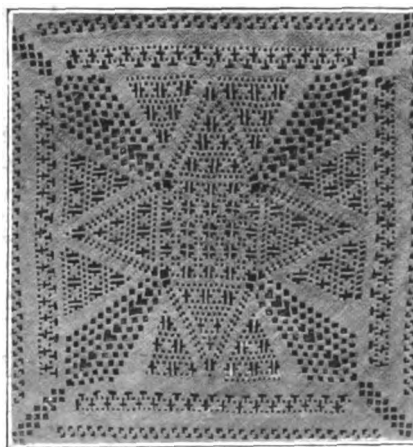
As the material for batikking, fine cotton is ordinarily used, of which the necessary piece is first steeped in oil for a long time to make it more susceptible to the dyes.

After the oiled parts have been carefully washed out with ash water, and after the

white cotton has been stiffened with rice paste and dried, it can be "battiked." What is really batikking? Nothing more than the drawing of a figure with a fluid wax mixture, with which those spots on the cloth are covered which are to remain white after steeping in the first dye.

For batikking, a tjanting or small, deep, waxen boat-shaped reservoir is used, to which a curved spout is fastened. The tjanting, made of thin sheet copper, consists of the reservoir proper, in which the melted wax is caught up, the curved spout, which may have a large or small aperture according to the thickness or fineness of the strips or spots which the batik maker wishes to design, and a thin pointed stem on the opposite side of the spout. This stem is inserted in the soft pith of a piece of reed which serves as a handle. There are various kinds of tjantings, but they need not be dwelt on here.

The wax mixture consists of various kinds of wax melted together. With the tjanting or wax reservoir the first design is rapidly applied to the cloth. If the outlines have been made on one side of the latter they are likewise designed with wax on the other side. Between these contour lines the empty spaces are filled up with smaller ornaments, after which all parts of the cloth are filled up with wax which are intended to remain white when steeped in the indigo.



OPEN-WORK MAT FROM PADANG HIGHLANDS.

The batik maker mostly leaves the dyeing of the batik work to the special dyer in blue, who always has his earthenware vats of indigo dye ready. The longer and more frequently steeping takes place the more intense, of course, the blue colour grows. If the cloth after this dyeing is returned to the batik maker, she scrapes a few wax particles away with a fine knife in order to lay open the spots which are now to be dyed brownish red. Therefore those parts which are to have the next colour are cleared of the covering layer of wax. After this the parts already dyed blue must once more be coated with wax except those blue parts (mostly the fine inner drawing) which can be safely left untouched, and are therefore intended to turn black on submersion of the stuff in the brownish-red dye. The chief constituent of the dyeing mixture for obtaining the brownish-red colour is *soga* bast (*soga*=the *Tellophorum ferrugineum* Benth.).

Another species of red is obtained by a mixture of which *mengkoedoe* root (*mengkoedoe*=*Morinda citrifolia*) and *djirek* bast (*djirek*=the *Symplocas fasciculata*) are the constituents.

After having fixed the brown-red colour likewise by steeping the cloth in a mixture into which alum, lumps of sugar, and lemon juice are put, all the wax can be melted off, and this is done by giving the dyed batik fabric a hot water bath.

In order to facilitate the batik work, large use is made at the present time of copper pattern-dies or tjaps, with which the wax is pressed on the cloth.

This work of wax stamping on the thin Chinese silk cloths is carried out at Sourabaya, where in this way looktjans, or shawls, are manufactured. In one of the kampongs of the said district, this constitutes a specific industry.

The same principle of protecting from the dye is adopted in the making of what is called "tie and die work," usually known in Java and Bali under the name of plangi. In a piece of silk some spots are tightly bound together, after which the silk cloth is steeped in aniline dyes. The same system approximately is used by those who make tritik, a cotton fabric, which is immersed in a specific dye after a thread has been passed through it and drawn tight corresponding to a certain figure or outline.

As an allied branch of industry mention may here be made of the beating and bending of tree bark into certain articles of clothing, such as jackets, loin belts, &c. This industry is still found here and there in the division of Donggala (Celebes) and on the island of Ceram, where, for instance, on the loin belts for men small circles are drawn indicating the number of heads of the enemy which have already fallen by the hand of the bearer of this primitive piece of raiment.

METAL-WORK.—The gold and silversmith's work of the Javanese is at a fairly high degree of development, although only faulty tools are in use.

The smelting of the metal is done in a kour or crucible made of red clay and stamped rice bran; the bellows of the small furnace are made of hollow bamboo, or consist of a leather sack forced up and down.

Wire-drawing is done almost everywhere by means of iron nippers, with the aid of which the beaten metal is forced through the draw-frame with its different holes. In some regions only, where a good deal of filigree work is done, as, for instance, in some Malay regions and in South Celebes, a draw-bench is made use of in the manufacture of wire.

The filigree work is the most artistic in the Menangkabau regions of Sumatra, where pretty ornaments of gold or silver thread are often made.



BALI WOMEN WEAVING.

Incrustation with precious stones is most frequently seen in Java. Of the processes most in use in the Malay Archipelago,

I would mention here incrustation, engraving, chiselling, chasing, and damascening.

Incrustation is the insertion of silver or gold lines and ornaments in an iron surface, which art is chiefly applied to arms in Java.

For engraving, chiselling, chasing, and damascening, various kinds of fine chisels are used. Fine specimens of the art of damascening are, for instance, the large gold buckles worn in Central Sumatra by bridegrooms. The engraving art reaches its highest in Bali and Lombok, where fine drawings are created with the graver.

There are various ear, neck, head, breast, and hair ornaments worn by the population.

Buckles are most seen in Java. Rings, both finger and foot rings, are found everywhere where the gold and silversmith's art is practised. Furthermore, there are gold and silver amulet boxes, scent boxes, handkerchief adornments, sheaths for arms, cigar boxes, cuspidors, walking-stick tops, sirih boxes, buttons, girdles, &c., in use by the native population.

Usually the toekangmas, or silversmith, is a man; in the Padang uplands, however, there are women likewise who practise the gold and silversmith's art, and are engaged chiefly in filigree work.

Soewasa is an alloy of gold and copper known almost everywhere in the archipelago.

KRISSES.—With regard to the manufacture of non-precious metals, I would in the first place mention here the pamor-smith's art, which is now mostly applied in the principality of Java in making kris blades. What does pamor really mean? Pamor is the drawing of white veinlets or spots seen on the blade of a kris, and is obtained by forging many layers of nickel containing iron through the weapon. The art of pamor forging, therefore, consists merely in this. The designs formed on the blade are not a matter of chance; the skilful empoe, or armourer, knows a way in which, by joining, forging, and turning screw-wise in a special way the pieces of metal which he desires to make into a weapon, to produce various designs on the blade. How are these designs produced, then? one may ask. The blade, with the nickeliferous iron it contains in many layers, is first filed bright and exposed to the chemical action of arsenic acid (ratsbane with lemon juice). The iron is attacked; the result is a thin layer of black arsenide of iron; the nickel remains bright and then stands out in a definite design of veinlets and spots against the dark background. In the judgment of the natives the best pamor is generally that standing out somewhat in relief on the blade, so that the design is perceptible to the touch.

In Bali and Sumbawa and in South Celebes weapons with pamor are also wrought.

The best pamor material is, according to the Javanese, obtained from the kraton of Soerakarta, where the hematite meteorite containing less than 5 per cent. of nickel, which fell a long time ago at Prambanan, is carefully kept.

Just as little nickel is contained in the so-called pamor Loewoe, pamor material obtained from Loewoe (Celebes).

Very fine pamor weapons are also made at Djocjakarta with pure nickel plates from Berndorf (Austria), which were given by the former Resident of Djocjakarta, Mr. J. R. Couperus, and Dr. T. Groeneman to some empoes or armourers, for use as a trial.

A description of the Indian parade weapon, the kris, may well be given here. This kris consists of several parts which all have a name and a meaning. The wooden handle has the shape of a curved human figure, which is straighter in proportion as the

bearer is of higher rank. Above and below, on the front side of the handle, there are usually seen small patches of relief work, presumably intended to represent the parts of the human body. The human figure can still more clearly be seen in the handle of the Madura kris; in fine specimens it is easy to distinguish the head (again bent), with nose, eyes and mouth, and on the back the hairs cut with the fineness of a spider's threads.

These handles of Javanese krises are worked with much care; repeated rubbing with the fingers gives a fine polish to the wood.

Every part of the gold or silver band made in a special way, which, at the end of the handle, marks the transition to the blade, has its name, and the same applies to the sheath, the broad upper part of which may be flat like a big bean, or boat-shaped, sometimes with a curved, scroll-like projection at the top.

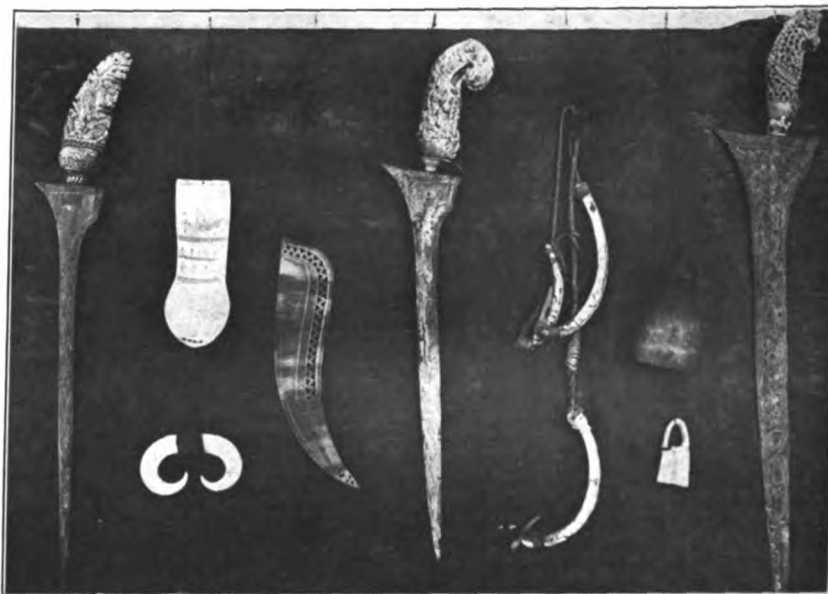
The blade, straight or with winds and bends (lock), has its various forms (dapoer) and different pamor designs.

to pieces, and the object, still covered with a layer of oxide of copper, appears. By means of chisels this layer of copper oxide is removed, after which the bright surface is turned smooth on a primitive lathe.

Polishing is carried out by means of various kinds of scouring paper. After this, chasing begins. The best work of this kind is still done at Sourabaya. For chasing, two kinds of chisels are used, by means of which straight and curved lines and small circles are produced. These latter figures serve to fill up the background. Sitting bent in front of the object, which is held in a wooden vice, the carver, with swift strokes of the hammer, strikes his chisel into the brass.

The different articles cast of brass are bokors (rinsing basins), paidons (spittoons), kinangans or sirih boxes, kendies or water barrels, tjerets or kettles, blentjongs or large lamps which are used at performances of wayang or Chinese shadow shows, also candelabra, sugar pots, salvers, coffee pots, cake baskets, rice pots, incense vessels, plates, &c.

The art of copper founding in the Padang



SAMPLES OF HORN WORK.

Reading from left to right:—

KRIS WITH ORNAMENTED BONE HANDLE, FROM JAVA.
(Upper) MOTHER-OF-PEARL SPOON (OEROE LILIR), FROM TENEMBER ISLANDS.
(Lower) A PAPUA NOSE ORNAMENT MADE OF BONE.
TORTOISE SHELL COMB WITH PROTRUDING EDGE AND POINT, FROM JAVA.
KRIS WITH ORNAMENTAL BONE HANDLE.

MOTHER-OF-PEARL HOOKS FOR HANGING UP HEADS OF ENEMIES, FROM WESTERN DIVISION OF BORNEO.
(Upper) A HORN INSTRUMENT FOR FIXING HEADS (JAVA).
(Lower) EAR ORNAMENT MADE OF BUFFALO'S BONE, FROM BARBAR GROUP.
KRIS WITH ORNAMENTAL BONE HANDLE.

BRASS AND COPPER WORK.—The art of casting brass is still practised in Java, in the Padang highlands, and the Batak lands. The process used is that a wax model is first made of the thing to be cast. This wax model, after a wax spout has been attached to it, is coated on all sides with a thin layer of a paste of fine charcoal powder and earth, and after drying is provided with a thicker coating of potter's clay.

After thoroughly drying once again, this mould is put into the fire with the spout turned downwards. Owing to the heat the wax melts and runs out, and a hollow mould is obtained into which the molten metal is poured. After cooling, the mould is broken

highlands has decayed, and in the Batak countries is confined now only to the manufacture of long toeljangs or pipes. Copper-smith's and brazier's work is still mostly practised in Java, where this metal is used for the ordinary household implements, such as dang-dangs, kendils or rice pots, &c. There are two processes known, viz.: (1) The forging of copper plates, the ends of which are welded to each other; and (2) the casting of the metal into a mould, which is beaten out entirely to the desired form, so that the hollow body shows not a single joint. It will be readily understood that this last process is difficult, and involves hard work with big hammers. This is still the method

at Djocjakarta and Banjoemas, and in about the same way the large and small gongs (musical instruments) are wrought at Semarang, this manufacture being a flourishing industry in that town.

POTTERY.—The fashioning and baking of earthenware tiles and pots is an art widely practised in Java. Bricks and tiles are shaped with wooden mallets, the former of river mud with sand, and the latter of clay and sand. After drying, they are systematically piled up into great heaps, in which flues are left for the fire. The stone piles are then coated outside with a thick clay plaster. Pots are shaped in Java on a big wheel, which is set rotating by hand, and adjusted by the toe. On the East Coast of Sumatra, in the Batak countries in South Celebes, and elsewhere in the outlying possessions, the object is entirely fashioned by hand. Even all round vessels, pots, &c., are made in this way, and the skill attained is so great that the same person can in one day supply various pots having all exactly the same circumference.

Tapanoei, the East Coast of Sumatra, and Boni, all sorts of designs, often ornamental, are outlined with a thin stick. In the Minahassa, the pot is rubbed with warm resin to diminish the porosity of the earthenware. Baking is carried out everywhere in about the same way, namely, by first piling up all the shaped articles loose, and inserting everywhere straw and other inflammable materials, after which the heap is set on fire.

The Javanese pottery work reaches its highest point at Depok (near Buitenzorg) and at Plered (Krawang), where not only is the material good but the technical method is accurate. In Bodjonegoro (Rembang), a sort of material is found which is similar to pipe-clay and which bakes light yellow. Elegant earthenware in various shapes diverging from the Javanese is found on the East Coast of Sumatra, in Tapanoei, and Boni.

WOOD-CARVING in Java is most artistic in Japara. The Japara tockangs (artisans) have, from time immemorial, made panels and wainscots, large pieces of wall material, which

Soerian, is used in the Padang uplands for carving, and with it the fronts of Malay dwellings are adorned. Although simpler in pattern than the Japara work, it also reproduces floral designs, and in individual specimens the winding tendrils characteristic of the art may be seen distinctly. The Bataks in Sumatra are likewise acquainted with house front adornments in carved wood. This wood-carving contains elegant designs more on a geometrical basis, and is done with three colours only, red, white and black. Geometrical ornaments are also found to a large proportion among Dayak wood-carving, which is often artistic.

The Baline wood-carver is more of a sculptor. He is able to make statues in wood representing types of the people or figures from the Ramajana epic.

Among bamboo carving I will here mention that of the island of Timor, island of Ceram, Central Celebes (region of the Foradja), and the Batak countries; it appears largely on cases, parts of weaving tools, looms, &c. The smooth yellow shell is simply cut with a sharp knife, and the incisions rubbed in with red or black paint or dye.

The ornamentation of the bamboo carving work in Timor is the most complicated and accurate of all. The Ceram motives are more sober. The Foradja bamboo carving comprises designs which occur pretty generally throughout the Malay Archipelago, and is mostly adorned with inlaid black idjoek shafts (idjoek are the coarse fibres of the aren tree, *Areucha saccharifera*).

The Batak bamboo carving is also very fine in many cases. Large designs are seen on the thick green-shelled bamboo vessels in which the Batak women fetch water from the river. These vessels are at times inlaid with small round mirrors.

MISCELLANEOUS.—Finally a few data may be given here regarding work in leather, horn, bone, tortoiseshell, seashells, mother-of-pearl, and cocoanut shells.

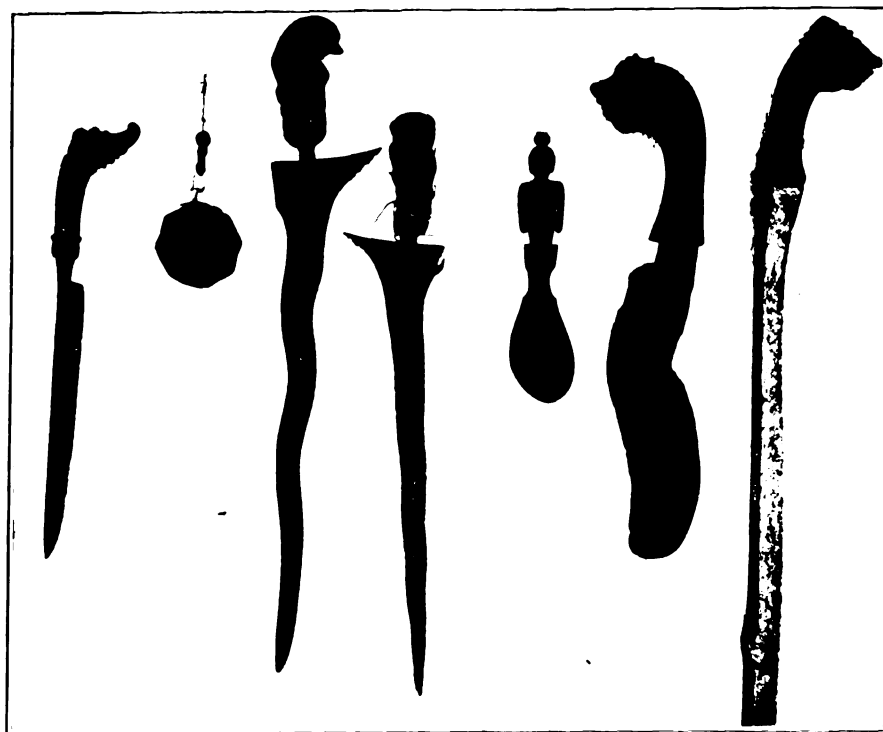
Coarse leather work in Java comprises the manufacture of all kinds of footwear, troen-pahs (native footwear), saddles and horse trappings; fine leather work is restricted to beating out prepared buffalo leather into wayangs, the figures in the Javanese-Chinese shadow plays. This technical art has in recent years at Djocjakarta been applied to the manufacture of leather articles for Western use, i.e. belts, fans, book bindings, &c. The wayangs and all the other articles de luxe mentioned are beaten out with fine chisels to such an extent that they sometimes show open-work motives as delicate as a spider's thread; the leather is then painted on both sides with a kind of water paint in certain colours.

From horn, by the aid of very defective tools, all sorts of household utensils and articles are made in Java and the outlying possessions, such as glass covers, combs, powder horns, the handles of knives and arms, and spoons. Bone and shell are materials which primitive peoples are prone to use. The Enganese make chain adornments from them. The people of Papua work up bone and shell into bracelets, foot-rings, and nose adornments. From the nautilus shell spoons are cut on the Tenimber Islands.

Tortoiseshell is used for making glass covers and for inlaying wooden boxes.

Mother-of-pearl is chiefly employed in the Malay countries on the East Coast of Sumatra in flat pieces as a material for encrusting the horn handles and sheaths of weapons.

Cocoanut shell is mostly worked in Java into glass covers, drinking bowls, &c.



SAMPLES OF HORN WORK.

Reading from left to right:—

A KNIFE WITH CARVED HORN HANDLE, FROM JAVA.
SMELLING-BOX (PAMONEANG), FROM SOUTH CELEBES.
KNIVES WITH HORN HANDLES, FROM JAVA.
SPOON, FROM SOUTHERN AND WESTERN DIVISION
OF BORNEO.

OLD FASHIONED CHOPPING KNIFE WITH HORN
HANDLE (JAVA).
STABBING AND CUTTING SWORD WITH HORN
HANDLE (JAVA).

On his wheel, the Javanese potter thus builds up the shape by continually adding fresh clay. After the shape has dried somewhat, the second operation takes place, i.e. the smoothing of the edge and beating of the wall, this last work being carried out with a wooden hammer and a stone. In the Batak countries, the wall of the still moist pot is beaten until it is extremely thin and weak, and must be supported by means of bamboo sticks.

As regards the ornamentation of the earthenware, it is supplied in many parts of the archipelago by applying a paste made of feriferous stone, finely triturated in water; this produces red figures on the baked product. Elsewhere, as for instance in

by means of their carved or sometimes open-work patterns were fine and striking ornaments in the houses of notables. Usually they use the wood of the djati (*Tectona grandis*) and now and again that of the sawo (*Achras sapota* Linn.) as their material.

When the material is ready, a rough sketch or daub of the pattern is made by means of thin paper and a pellet of charcoal powder. This sketch is kept. The pattern need then later on only be stuck on a new panel and the first outlines carved with a chisel.

A pattern of Japara wood-carving frequently represents a winding flowery motive. The articles made at Japara are boxes for all purposes, sticks, tables, plates, screens, &c.

A softer species of wood, as, for instance,



FIELD BATTERY, BANJOL BIROE, JAVA.

NAVAL AND MILITARY FORCES.

THE ARMY.

HOLLAND possesses three armies—in Europe, the East Indian, and the West Indian colonial possessions—each of which has an entirely separate organisation. True, it is possible for the Dutch soldier below the rank of officer to pass from one army to the other, and to secure his future service wherever this seems to him to offer most facilities and is most in agreement with his personal inclinations, but it is not possible for him to claim this as a right and thus be periodically transferred hither and thither between the national and colonial forces.

The officers, although they complete their studies in the same institutions in the Netherlands have special rank and a special system of promotion for the East Indies. The small army in the West Indies (Dutch Guiana and Curaçao), on the contrary, has its cadres filled up as regards officers with what are known as detached officers, *i.e.* officers who have volunteered their activities temporarily in the West. These latter, however, continue to belong to the army which sent them out.

This last category of detached officers is likewise found in a small percentage in the East Indies. It is the strong wish to gain experience of war conditions which has induced them to prefer a temporary stay in the Asiatic colonies rather than to continue in the army in Europe during a prolonged period of peace. As a rule, this detaching of Dutch officers to the Indies is allowed by the army administration, and even encouraged and fostered during the periods of unrest.

COMPOSITION.—The army in the Dutch Indies consists exclusively of volunteers. In complete accordance with the principle which obtains among the Dutch in their colonial administration and management, the most

varied nationalities and races are represented in the army. We find therein a nucleus of Europeans, in the first place Dutchmen, but also a number of Germans, Belgians and Swiss; the natives, however, are the most numerous.

Owing to the mixed nature of the native population, consisting of extremely heterogeneous races, different nationalities are found among the soldiers as well. The Javanese is represented in the largest numbers in the army. Here and there Malays are found. Though distributed over the entire archipelago they have their real home in Sumatra. An exceptional race of warlike soldiers comes from the Moluccas. Amboinese, Menadonese, and Alfurs are the race names of the soldiers recruited there. They are difficult to handle in garrison during peace, but are so much the better for use against the native enemy. The officers are exclusively European and must be Dutchmen. They have all received their training in the Netherlands and there passed their examinations and obtained their qualifications.

For exceptional services in the field, however, it is possible to obtain the grade of officer in the Indies without examination, but this is a rare exception. We may mention as an instance the Swiss, H. Christoffel, who, after being naturalised, was gazetted an officer and in a few years became captain by preferential promotion. At the present time, this famous fighting soldier, who has gained many brilliant decorations, is still engaged in the field, his services being utilised wherever danger threatens.

Since 1908, just as in British India, a trial has been made of native officers, for the present exclusively recruited among the Javanese nobility. Although judgments on this measure are not undivided, it was adopted as being in keeping with the pro-

gressive tendency of the Colonial Government during recent years, which aims at opening to the natives more and more offices, dignities, and functions formerly obtainable by Europeans alone. Yet the maintenance of native princes, nobles, and notables as civil administrators had long been a principle of the Netherlands Colonial Administration.

The line of demarcation so strongly drawn in the British colonies between full-blooded Europeans and those of mixed parentage has no official existence in the Dutch Indies. The Netherlands Indian Government does not know any distinction. Every child lawfully acknowledged by a Dutchman enjoys full and complete rights as a Dutchman. The Eurasian element among the officers, therefore, is fairly large.

The ethical principle which prevailed in the adoption of this legal enactment has been found to be of advantage to the existence of the Netherlands as a colonial power. Above all, in the army the good fruits of this have been reaped, because the "Indo" (as the native is colloquially termed) who is born and bred in the country, equipped with knowledge of the land and people, understanding and more nearly akin to the often mysterious and mystical tendencies of the native population, has frequently been better able to act in the right direction than the European-born white. This is the more clearly brought out where the Dutch Indian army, in addition to its task of conquest and tranquillisation, appears, as it frequently must, as pioneer, pacifier, topographer and administrator.

ORGANISATION AND COMMAND.—The Commander-in-Chief of the Land and Sea Forces in the Dutch East Indies is His Excellency the Governor-General. The present holder of this dignity is J. B. van Heutsz, Adjutant-General, Adjutant Extraordinary to Her

Majesty the Queen, with the rank of Grand Officer of the Crown, retiring as Lieut.-General. At the head of the army stands the Army Commander, the Chief of the Department of War, at present Lieut.-

the Dutch Indian Government has experienced great difficulties in the recruitment of Europeans.

STRENGTH.—We must therefore confine ourselves to indicating the component parts

the native enemy, for which reason the field battalions belonging to Java are often sent to the outlying possessions to strengthen the battalions and other troops there. As a rule, the infantry alone carries out operations against the native foe, the artillery and cavalry being concentrated in Java. Only in large expeditions do the artillery and cavalry take the field.

In addition to the above troops, there are, further, three depôt battalions in Java, *i.e.*, at Buitenzorg, Djocjakarta, Solo and Malang. A fourth depôt battalion is in garrison at Fort de Kock, Sumatra. Recruiting and training of recruits is the chief purpose of these divisions.

INFANTRY.—Of the chief army, the infantry, two-thirds of the effective strength are constantly away from Java, serving in Bali, Sumatra, Celebes or Flores. There is an incessant coming and going in the replacement of the worn-out troops on the outlying possessions by freshly-equipped troops from Java.

In addition to the twenty field battalions and four depôt battalions, there are further available eight garrison battalions and seven garrison companies, which, their name notwithstanding, are seldom or never in garrison but are distributed over the whole archipelago, except Java, and are stationed at posts, bivouacs, &c. These troops do regular patrol work for days, weeks and months together. This is the way in which the Government enforces its civil administration, maintains tranquillity in the interior of its extensive territory, and thus compels admiration for so small a nation which finds it possible, with 15,000 men in the outlying possessions and 7,000 men in Java, to maintain peace and order in an island kingdom of 50,000,000 inhabitants of extremely divergent nature and racial characteristics.

Although the civil administration is in the



BARRACKS AT FORT DE KOCK, SUMATRA.

General M. B. Rost van Tonningen, Adjutant Extraordinary to Her Majesty the Queen.

The Department of War consists of nine divisions, each under a separate chief, namely, Secretary's Department, Infantry, Artillery, Engineers, Commissariat and Administration (Army Service), Medical Corps, General Staff, Cavalry, and Topographical Service. The army itself, in its sub-divisions, is under the command of these divisional chiefs.

When it is known that until shortly before the entry upon office of the present Governor-General, who began to shape order out of chaos, nine hundred different political contracts existed with the various protectorates, one will be able to form some idea of the impossibility of a uniform army organisation over the whole archipelago. Numerically, too, and from the point of view of capital, the Dutch nation is not in a position to carry into effect a system of defence in its Asiatic colonial possessions which would afford sufficient defence against a foreign power. It is true, in an island kingdom, the brunt of the task would have to fall upon the fleet, and the land forces occupy only the second place. Although the troops in the outlying possessions have their instructions in the very nature of things as to the method of action against a foreign enemy and the maintenance of neutrality, Java, being, as stated above, to the extent of 93 per cent. under direct administration, is the only country in the Dutch East Indies which has a modern army organisation planned on an Occidental footing.

BRIGADE SYSTEM OR ORGANISATION IN JAVA.—The field army in Java is divided into four brigades, with headquarters during peace at Batavia, Semarang, Sourabaya, and Bandoeng respectively. To give the nominal composition of these brigades is not feasible, as the twenty field battalions of which they are made up are subject to constant change, in dependence on the requirements called forth by the political condition among the native population throughout the archipelago. There is, nevertheless, no distinction between troops intended for use against a foreign foe and those for use against natives. Furthermore, the effective strength of the companies, squadrons, and batteries and the proportion between the numbers of Europeans and natives undergoes alteration, as of late years

of which the brigades are made up, and to stating the organic strength of the companies. These data are as follows:—

- 20 Field Battalions of 4 companies,
- 4 Field Battalions of 4 guns each,
- 4 Mountain Batteries of 4 guns each,
- 4 Field Squadrons of Cavalry,
- 4 Companies of Engineers;

together with auxiliary arms: Army Service and Administration, Medical Service, &c.

The above-named troops are organically in existence in Java (although owing to the condition of recruitment there may be a



COMMANDING INSTRUCTORS AND STAFF, ARTILLERY DEPÔT BANJOE BIROE.

deficient percentage of Europeans in some divisions), with the exception of the twenty field battalions of infantry. As already stated, there is as yet no distinction between troops intended for the foreign foe and those for

hands of a select body of officials, unquestionably a gigantic share of it must be credited to the army, not as combatants in the first place, but chiefly in its capacity as pacifier, pioneer, and administrator. High,

very high, therefore, are the requirements which an infantry officer, if he is to be thoroughly capable, must fulfil even in early lifetime, both as regards mental and physical development and qualities of character.

Practice has shown that in this way tranquillity and safety are ensured in the archipelago. In the northern corner of Sumatra alone, Atjeh, success has not yet been achieved. The contest has been carried on since 1873 with varying success, though it is true that under the present Governor-General, His Excellency J. B. van Heutsz, the pacification of this region, owing to his improved methods—politically, economically and from a military standpoint—has made gigantic strides, and there is now a likelihood that Atjeh, within a measurable period, will no longer be a region of disturbance and disquiet.

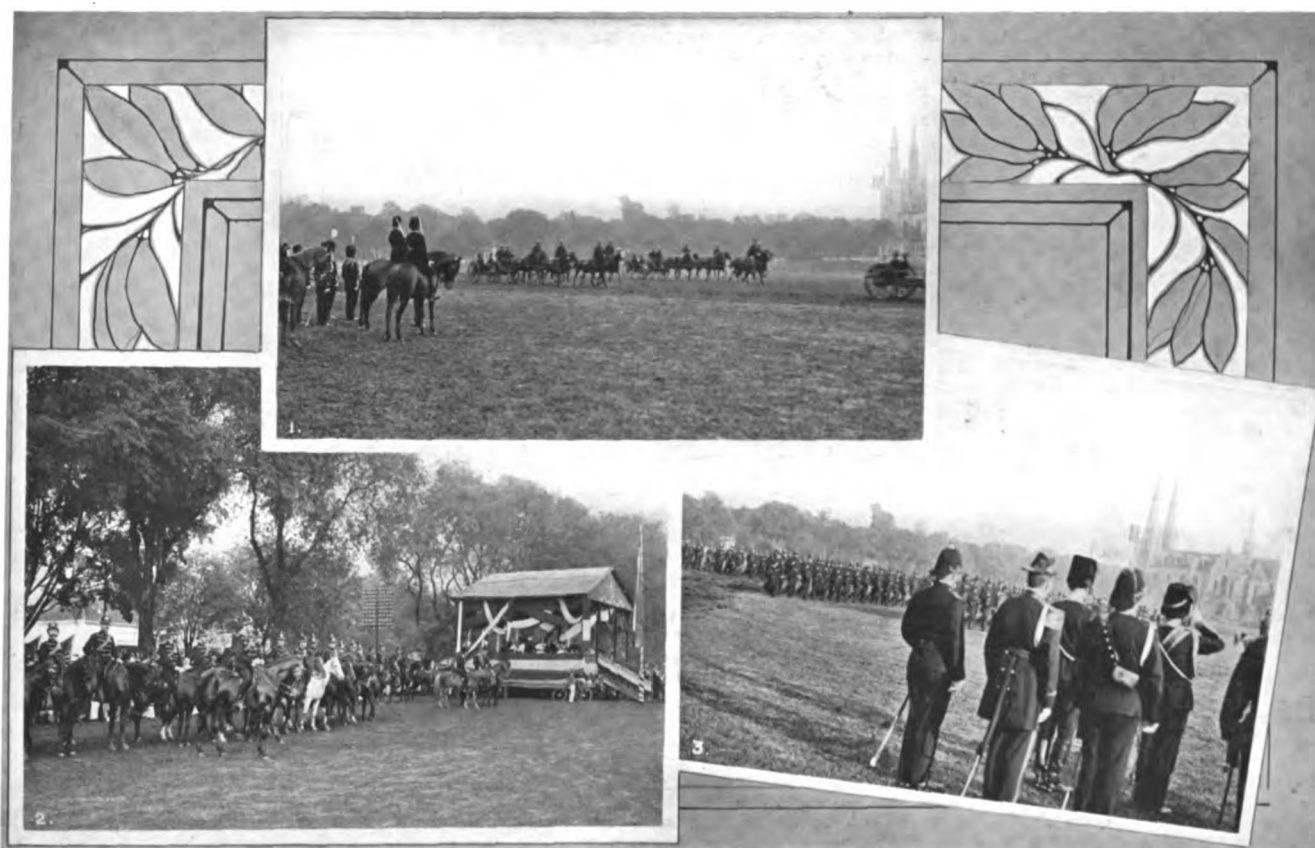
The existence of this corps is due to that man of resource and military achievements, who may be said to know the country and people *far excellence* (now retired)—Lieut.-Colonel Jhr. Graafland. The latter felt the possibility of getting far more done by the native troops than was then deemed possible by means of the personal, *i.e.* individual influence of superior troop officers knowing the native troops—officers possessing qualities such as to compel the continual admiration of the native troops. Jhr. Graafland began by selecting an *élite* of officers from the battalions and combining them into small groups of about twenty men or less.

A brigade of Marechaussee (not to be confused with the brigade of the field army in Java) contains 20 men, namely, 1 European non-commissioned officer (commander), 1 native sergeant, 1 native corporal, 17 native

system in Java, they are, owing to their very great marching capacities and rapidity of movement, destined for reconnoitring service, and, if necessary, for taking the place of cavalry.

CYCLISTS' COMPANY.—The cyclists' companies do not yet form an independent corps, though it was long intended that they should, but are still administratively allotted to a field battalion. For garrison purposes these men, who have the additional pay allowed to the Marechaussee, have done considerable service as police in Batavia. At the present time, the first cyclists' company has been sent to Atjeh, chiefly to cover transports, to protect the railway, telegraph, and telephone lines, &c. A second cyclists' company has been constituted at Weltevreden.

CAVALRY.—The cavalry counts four field squadrons and one depot squadron, which



MILITARY REVIEW ON WATERLOO PLEIN, WELTEVREDEN, BATAVIA.

There are what are known as "subsistence cadres" at Batavia, Semarang, Sourabaya, Padang, the West Coast of Sumatra and Kota Radja. These "subsistence cadres" or attachment depôts are, as it were, the transit depôts for men awaiting repatriation, drafting into their regiments, men in transit, &c. Finally, mention must be made of the punitive detachment at Ngawi (Java), a detachment into which are drafted, as an extreme disciplinary measure, soldiers who appear to be insensible to the ordinary disciplinary punishments.

MARECHAUSSEE.—The unmounted corps known as the "Marechaussee" in Atjeh and its district, the *corps d'élite* of the army in the Dutch Indies, deserves special mention.

soldiers. These are chiefly Amboinese, the most warlike nation of the archipelago, and Javanese. The men, however, are picked, and are highly paid.

Three brigades are under the command of a lieutenant and are called a "detachment." Three detachments form a "division" under a captain. There are now four divisions, as the official formation—720 unmounted military police in Atjeh. In reality the corps is much more extensive. At Djambi (Sumatra) and in Celebes, Marechaussee brigades have likewise been formed and have done excellent service in the guerilla warfare against the native foe. In Java, the Marechaussee have a peace garrison at Tjnnabi, which is likewise a recuperating station. In the brigade

latter serves for the training of men and horses. The whole of the cavalry is concentrated in Java and is comprised in the brigade system. There is only one platoon of the 4th Squadron detached in permanence at Kota Radja (Atjeh), where it is intended for the personal service of the Governor of Atjeh. In the latest action on the West Coast of Sumatra, the 3rd Field Squadron was sent there. Detachments of cavalry have also served in the Celebes.

ARTILLERY.—The artillery in the Dutch Indies, as regards composition and divergent branches of service, is certainly the most complicated service. The chief office is at Batavia, and there, by means of an extensive staff of officers, controls and administers the

widely disseminated body. The endeavour is being made to allot to the artillery, in addition to the tactical task of the service, the supervision and the carrying out of almost all technical and material needs of the entire Indian Army. This intention of the Army Administration is due in part to economic considerations, but above all to requirements of defence, that is, to the necessity for making Java as far as possible independent of European supplies. Wherever this was possible or necessary, the Army Administration took over the special military industries into its own hands.

The commander of the field and mountain batteries has four field and four mountain batteries under his command, which are distributed throughout Java.

The field and mountain batteries likewise belong to the brigade system in Java. They are not used, save in cases of extreme necessity, for expeditions in the outlying possessions. It is preferred to use the mountain ordnance and the flying detachment of the 3.7 cm. quick-firing guns. The armament still consists of comparatively old-fashioned 7 cm. guns, but these are in process of being replaced by quick-firing guns. The garrison artillery consists of ten companies, all in Java with the exception of that in Sabang (Atjeh). The strength varies and depends on the destination. Besides the above commands and corps, the artillery further comprises various departmental services.

ENGINEERS.—In the Engineers' Service, in addition to the chief office at Batavia, there are the regional and local departments, a service operating entirely outside the tactical system and distributed over the whole archipelago. The Corps of Engineers troops consists of four companies at Tjimahi (Java), and two sections at Atjeh. There are engineers' stores at Batavia, Semarang, and Oeleë Lheue.

ADMINISTRATION.—The Military Administration consists of the chief office at Batavia, the District Army Service Departments throughout the archipelago, and the administrative services in the corps. This entire branch of the service is controlled in extremely concentrated form from Batavia, even the administrative services of the corps are not directly under the corps commanders but have the regional intendants as their direct chiefs. The clothing and equipment stores are distributed throughout the archipelago. The Army Medical Corps is described elsewhere in this volume.

ARMAMENTS.—In the different branches of the service the armaments in use consist of the magazine rifle M.95, the chopper, revolver, and sabre. Money has been voted for equipping the field and mountain artillery with quick-firing guns (tube recoil). Preference is given to Maxim guns.

Troops for the wild country, as a rule, are equipped with the carbine. Carbine and klewang or rifle and chopper, both with bayonet, constitute the equipment of the infantry troops. The klewang (short sabre) is a redoubtable weapon in a hand-to-hand fight. A Marechaussee commander prefers not to shoot, allows the carbine to remain hung, and attacks with his devoted brigades, klewang in hand. The war-cry of Amboinese, Menadonese and Timorese, the "Madjoe Marechaussee" and the undaunted advance,

produce on the native foe, who has already made acquaintance with the klewang, more impression than the most terrible fire.

REMOUNTS.—For six years past the Army Administration has been engaged in altering the method of remounting the horse services. Formerly it was the Sandelhouts, Sumbawa and Preangers horses which were used as riding and draught horses in the army, and mules as pack animals. Now, however, these are being replaced by Australian ponies between 1.50 and 1.60 metres in height. There are two reasons for this change, namely, the greater requirements of modern warfare as regards horses, both in respect to size and weight, and further, the degeneration of the native animals owing to breeding having been neglected. Every year, now, a Remount Commission goes to Australia to make the necessary purchases. The average cost of a remount is Fl. 560. The young horses are then acclimatised in the Remount Depot at Padelarang, and from there sent as required to Salatiga and Banjoe-Biroe for training.

The remount reserve during war time, however, would be too small. Therefore, every year, throughout Java, all the horses belonging to Europeans, Chinese and Arabs are retained as war horses, registered and allocated, in order, in the event of mobilisation, to be called out for service.

RECRUITMENT.—Filling up of the ranks of the army, consisting exclusively of volunteers, is effected by the recruitment, either in Holland or in the Indies, of Dutchmen, natives, and foreigners. This recruitment may be effected at any garrison and through the agency of any chief of local administration in Holland or the Indies. There is a permanent recruiting depot at Harderwijk in Holland. The earnest money or "prime" upon enlistment amounts to Fl. 300. Ready equipped and conveyed, when all is paid and calculated, including all expenses in the widest sense, each man costs the Dutch-Indian Government about Fl. 1,000, when delivered in the Indies. The enlistment is for six, twelve, or more years, and on re-enlistment premiums are awarded; moreover, after completion of service, there is a pension depending on the rank and length of service. There are Pensioners' Homes (for those incapacitated by wounds) in Holland, at Leyden and Bronbeek. The Colonial Reserve at Nijmegen is intended to render available a supply of capable troops for the colonies, and serves at the same time as an encouragement to enlistment.

Enlistment in India covers Indo-Europeans—though in small numbers—and natives. The Javanese and Amboinese are certainly the most largely represented element in the ranks. It requires tact, knowledge of the country, its ways and language to bring out properly the good qualities of the native soldier. Nevertheless, the native soldier—especially the Javanese—can easily be trained. Desertion is extremely rare.

CORPS OF OFFICERS.—The corps of officers comes exclusively from Holland. They are trained by the Royal Military Academy at Breda, as regards infantry, cavalry, artillery, and engineers. The school at Kampen likewise supplies infantry officers, as well as administrative officers. Doctors, chemists and veterinary surgeons are chosen from among civilians. They sometimes receive a subsidy

during their time of study. The strength of officers is subject to some variation. The total strength is about 1,550.

PAY AND PENSIONS.—The standard of pay and pension is in relation to the high cost of life in the colony.

The figures given below are the nominal pay for those on active service, for one month. It should also be borne in mind that all officers have free residence, or a corresponding allowance varying with the rank and garrison. It is about one-third to one-sixth of the month's pay. They are, further, allowed forage for horses, reception funds for authorities and on expeditions, excursions, &c., and a series of extra daily allowances and additions, which sometimes raise the real income to double or more than double the nominal amount:—

	Pay, Per month, Fl.	Pension, Per year, Fl.	Widow's pension, Per year, Fl.
Lieutenant-General	2,000	9,000	1,800
Major-General ...	1,250	6,000	1,600
Colonel ...	1,000	4,500	1,400
Lieutenant-Colonel	750	3,500	1,200
Major ...	600	2,800	1,100
Captain ...	450	2,000	900
1st Lieutenant ...	260	1,500	700
2nd Lieutenant ...	190	1,200	600

The pension is earned after twenty years' service in the Indies, and two years in the last rank, or immediately on disablement, during and on account of service. Part pension is allowed for disablement otherwise. The widow's pension is allowed on the death of the husband. Nothing need be paid in to secure the pension to the officer himself. For the widow's pension a contribution of 6 per cent. of the income is paid even by the unmarried, together with a first premium.

The pay of lower ranks is as follows; pension varies according to the length of service:—

	Pay, Per month, Fl.	Pension, Per year, Fl.	Widow's pension, Per year, Fl.
Sub-Lieutenant...	175	1,200	420
Adjutant - Non-Commissioned Officer ...	3.25 2.25	666 180	288
Sergeant-Major...	1.85	626 176	264
Sergeant ...	1.00	586 162	240
Corporal ...	0.70 0.50	430 110	168
1st Class Soldier	0.42 0.25	370 92	144
2nd Class Soldier	0.38 0.25		

Widows' pensions for all European women who are lawfully married have just been introduced. Like the officers, all other classes of soldiers have fairly considerable emoluments during expeditions and excursions.

EUROPEAN FURLOUGH.—The officers in the highest grades of non-commissioned officers, after an uninterrupted stay of ten years in the tropics, are entitled to a year's furlough in Europe, free passage out and back, continuance of pay (reduced, so-called furlough pay), whilst the year or years—extension being easily obtained—reckon half as time of service. The non-commissioned officers and privates likewise possess the right of repatriation on completion of their time of service, and can always re-enlist in Holland in the same grade, provided the legally fixed period has not been exceeded.

THE NAVY.

Contributed by the Departement der Marine.

THE navy in the Dutch East Indies consists of half-a-dozen iron-clads and armour-protected vessels formed into a squadron, 6 smaller vessels, 4 survey vessels, and 9 torpedo boats, whilst in the roadstead of Sourabaya there is a guardship. The ships of the squadron form part of the navy of Holland. Provision is made in Holland for the regular replacement of these vessels, which takes place as far as possible every three years.

During the stay of these ships in India they are charged to the Indian revenues, with the proviso that the necessary repairs are defrayed by the Netherlands.

The flotilla of smaller vessels and survey ships, the torpedo boats and the guardship form what is known as the Indian Military Marine. These vessels remain in the East Indies, and are entirely kept up by the Indian Government.

The ships of the squadron serve the purpose of giving effective force to the rights and interests of the Netherlands and maintaining the sovereign authority in the archipelago, both against the native peoples and others. The vessels of the flotilla are intended to secure respect from the native peoples in the archipelago for the constituted authority. The survey vessels carry out surveys for improving the existing maps of the island realm and for charting parts still unsurveyed. The torpedo boats are intended for the defence of harbours and entrances to ports or roadsteads. The guardship serves chiefly as a depot ship.

The subordinate staff consists, approximately, of two-thirds European and one-third natives. The survey boats are manned entirely by natives, with the exception of the officers. All other ships have a mixed crew. All the officers and engineers and the European members of the crews belong to the Dutch Navy. The necessary officers and men for the navy in the colonies are sent out in turn from the Netherlands to do colonial service. After three years' service in the tropics, they are relieved, and return either by the changing ships of the squadron or by mail steamer. The native men on board are recruited among the native population. They are engaged on the guardship at Sourabaya. The personnel of the navy consists of :—

- 1 Flag Officer.
- 18 Chief Officers.
- 222 Subaltern Officers.
- 97 Engineers.
- 2,100 European Petty Officers and men.
- 1,000 Native Petty Officers and men.

For the protection of the Dutch Embassy in Peking, there is maintained in that city a guard consisting of a captain and twenty-five petty officers and men of the Corps of Marines.

The Governor-General is the Commander-in-Chief of the Navy in the Dutch East Indies, subject to its administrative relations to the Department of Marine in the Netherlands. He conducts this command in accordance with the instructions laid down by Her Majesty the Queen, and as he thinks most advisable in the interests of the colonies.

The commander of the entire navy in the Dutch East Indies is a flag officer, who is likewise the Chief of the Marine or Navy Department, Batavia. The personnel of this

department consists of naval officers and higher and lower officials. The squadron is under the command of a captain commander of the sea squadron, who is subordinate to the naval commander.

Following are particulars of the composition, object, and strength of the Government Marine :—

The Government fleet consists of 24 steamers, including a cable vessel, which serves as a Government steamer when not engaged on cable work. Of these 23 ships, 17 are in active service, and are distributed over the various regions as shown below :—

- 2 at Atjeh,
- 1 for Riouw and its district and the East Coast of Sumatra.
- 1 for the West Coast of Sumatra,
- 1 for Madura, Bali, and Lombok,

necessary for the purposes of good and energetic administration, and which either necessarily must be carried out by Government vessels, or are most efficiently and most cheaply carried out in this way.

The personnel of the ships consists of Europeans and natives. The officers, steersmen, and engineers belong to the first category, and the remainder of the crew to the latter. The strength of the personnel is 112 Europeans and 625 natives.

The European personnel of the Government Marine belong to the class of civil servants or functionaries. The nautical section is filled up by young men who have been trained in the Training School for Navigation in Amsterdam. The engine room staff are appointed among those who apply for the position in India and have been in training in one of the technical schools in that region. The native



THE "TROMP."

ONE OF THE SHIPS OF THE NAVY OF NETHERLANDS INDIA.

- 1 for the Southern and Eastern Division of Borneo,
 - 2 for Celebes and its administrative region,
 - 1 for Menado,
 - 1 for Ternate and its region,
 - 1 for Amboina.
 - 2 for Timor and its region.
 - 1 for South New Guinea,
- whilst 3 steamers are told off for general service in the archipelago, with Tandjong Priok as their headquarters.

The task of the Government Marine consists of :—

- 1. The conveyance when necessary of officials and persons in Government employ as likewise Government goods and moneys.
- 2. Police supervision within territorial waters.
- 3. The prevention of the trade in and conveyance of slaves.
- 4. All further services which may be found

personnel is taken on as far as possible at the station of the ships themselves.

The Marine Establishment is at Sourabaya, and is intended for building, constructing, repairing, laying-up and equipping ships, vessels, tools, boilers, &c., &c., for the Navy and Government Marine, for pilotage, buoying, coast lights, and the harbour departments ; all of which services are within the supervision of the Department of Marine. Upon special authorisation, this establishment may likewise carry out work for other departments of the general administration.

Private ships may be allowed to make use of the docks, the mast and boiler derrick, careening pontoon, and boiler pontoon, if the private establishments in the locality do not possess the necessary equipment. Payment is made for this use in accordance with the established tariff.

There are two iron floating docks, one of 5,000 and one of 1,400 tons, whilst an iron

floating 3,000-ton dock, likewise belonging to the Marine Establishment, is stationed at Sabang, and is worked by a private company.

At the head of the establishment is a director, who is selected by preference from the corps of officers of the Royal Navy. He is assisted by a chief engineer, three engineers, a number of naval officers and engineering officers, together with the necessary administrative officials. The workmen consist chiefly of natives who are under European supervision.

In addition to the above docks, there is also at Tandjong Priok a Government 4,000-ton dock, which is worked by the "Tandjong Priok" Dry Dock Company. For ships up to a maximum weight of 2,000 tons and a maximum length of 90 metres there is also a slip available.

Repairs to ships, and the manufacture and repair of steam boilers, steam appliances, and the supply of the accessories of navigation in connection with them, are effected at Tandjong Priok, and likewise at Sabang.

Regular observations by the Royal Magnetic and Meteorological Observatory of the various meteorological elements date from January 1, 1866. Later, in July, 1867, magnetic observations were also added. The latter are not quite complete, because, owing to illness of the very small European staff, the series of magnetic observations was interrupted in 1883, and in 1899-1901, owing to the disturbances occasioned by the electric tramways, the records were obliterated for two years.

The object of the observatory may best be learned from the motives which led to its foundation. When in 1856 the appointed Governor-General of the Dutch East Indies visited Berlin, Alexander von Humboldt urged His Excellency to establish an observatory at Batavia where regular meteorological and magnetic observations could be made. This would, he said, yield a very considerable contribution to the knowledge of the elements

in tropical regions. After Von Humboldt had, in a letter, once more pressed this matter, Professor Buys Ballot was requested to draft a plan for making magnetic and meteorological observations.

The result was that, in 1857, Professor Buys Ballot submitted the following plan to the Minister of the Colonies:—

1. The erection of a magnetic and meteorological observatory at Batavia adapted for taking hour observations.

2. The organisation of secondary meteorological stations at some other points of the archipelago.

3. A magnetic survey of the archipelago in conjunction with the magnetic observations at Batavia.

As regards points 1 and 3 this work has been carried out.

The establishment of secondary stations referred to under 2 is still a desideratum.

The work of the observatory, however, has not been restricted to what was contemplated in the original order. To the hour observations there have been added automatic recording devices which register the temperature, moisture, barometer level, sunshine, direction of wind, velocity of wind, and rainfall uninterruptedly.

At the same time detailed particulars have been collected with regard to the electricity in the air and terrestrial currents. These observations are worked up annually and published in the year book of "Observations" of the observatory, and the rainfall in a special book under the title of "Rain Observations."

There is a third division of observations hitherto not mentioned. There are the seismological observations which, until the end of 1908, consisted chiefly of a Milne's seismograph and one by Rebeur Ehlert. Since then an important extension has been achieved, inasmuch as an astatic seismograph by Van Wiechert has been erected, which

has been registering records since the beginning of December, 1908.

Among earlier investigations it is only desired to mention here the large work by Dr. Van der Stok on "Wind, Weather, and Currents in the East India Archipelago," in which many thousands of observations from 1814 to 1890 from ships' journals kept on board the warships are worked up together with wind observations relating to sixty points on the coast.

Further, a contribution by Dr. Van Bemmelen on the subject of the rainfall in Java, in which the average monthly rainfall and the number of rainy days is given for seven hundred stations, supplemented by some considerations regarding periods of drought, the influence of orographic conformation, &c.

The following is the expenditure on the Marine in the Dutch East Indies:—

	Expenditure per annum. Fl.
The Department and general service	216,000
The Marine Establishment and services connected therewith ...	726,000
Coal Storehouse	7,000
Magnetic and Meteorological Observations	39,000
Hydrographic Service	84,000
Navigation	1,952,000
Marine Personnel	2,822,000
Material	3,250,000
Costs of the maintenance of the Marine Barracks	2,000
Travelling costs and costs of residence in the Indies	82,000
Sending out and home the personnel of the Royal Marine ...	329,000
Unforeseen expenses	194,000
Total	9,703,000
Revenue	862,000
Balance	Fl. 8,841,000





THE STRAND, RANTAN PANDJANG, LANGKAT, SUMATRA.

POLICE.

BY J. DE GROOT, Formerly First Government Secretary, Batavia.

By the term "police" are meant the measures taken to secure public peace, order, and safety, or, in a narrower sense, measures aimed at the prevention and detection of crimes and other disturbances of the peace. It is divided into preventive or general and repressive or criminal police.

The police in Netherlands India does not form any special branch of administration. Its constituent organs are partly under the Department of Internal Administration, which pays the special police expenditure, and partly under the Department of Justice, which is concerned with the police regulations, which, before they are issued, are ratified by that department.

The Chief of Police proper is really the Attorney-General (Procureur-Generaal) in the High Court of Justice of the Dutch Indies, who is likewise the Chief of the Public Ministry or Public Attorney's Department. He is authorised to give the chiefs of regional and local administration such instructions regarding the police as he may deem necessary in the interests of justice, for the detection and prevention of crime or offences, and for the maintenance of public peace and order. Under his command and supervision, the police duty is carried out by officers who belong partly to the Department of Justice and partly to that of Internal Administration.

Immediately under the orders of the Attorney-General are the officers of justice, who are particularly entrusted with criminal police (repressive police) and are assisted by

many officials, the assistant officers of justice. These assistant officers also include the chiefs of regional administration, who are bound to give the officers of justice all the required help, and to convey the orders of these officers to the lower European police and the native employees in the Public Ministry.

The preventive or general police is more definitely entrusted to the officers of internal administration, who not only follow out the instructions of the Attorney-General and advise him of all the occurrences requiring his intervention, but are, by virtue of their instructions, required to regard the maintenance of police measures as one of their most prominent duties.

In addition to the general police, we further find the special police in the form of the forest police, the salt and coffee police, both of which latter are required to watch over the maintenance of the Government salt monopoly and prevent Government coffee being withdrawn from obligatory delivery in so far as the latter still exists.

The Government has given serious consideration to the idea of thoroughly overhauling the police establishment in Java and Madura, which has not kept pace in all respects with the great development which has taken place during the last decade on those islands. It is not improbable that among the measures which are to be taken for the reorganisation of the police will be included the appointment of a special chief officer of police. This will secure the advantage of greater central guidance. Furthermore, a special police organisation will probably

be called into existence for the three great divisions of Batavia, Semarang, and Sourabaya, which have developed into important communes.

The general police in the Government lands in Java must be divided into the Government police and the native communal police. The Government police is controlled by European and native officials in the Department of Internal Administration, namely, the chief of regional and local administration (partly also the "controllers"), the regents, with the patih and the district and sub-district heads, assisted by an extensive European and native personnel. In chief towns of any importance, European bailiffs and police inspectors are found; for instance, at Batavia, one bailiff, three assistant bailiffs, two water bailiffs, and the necessary police inspectors. Furthermore, all administrative officials, as a rule, have one or more native policemen at their orders; save for a few exceptions, since the reorganisation in 1897, the following system of attachment has been adopted in principle:—

To a Resident, one mounted chief policeman and three men.

To an Assistant Resident, one mounted chief policeman and two men.

To a Regent, one mounted chief policeman and three men.

To a Patih, one policeman.

To a District Chief (Wedono), one mounted policeman and three men.

To a Sub-District Head (Assistant Wedono), one mounted and one foot policeman.

Together these policemen form a very large number; at the end of 1907, their number in Java and Madura, outside the three ordinary chief towns, amounted in round figures to 1,800 mounted and 3,800 foot policemen, total 5,600 men. After completing their service, they are entitled to a pension. In almost all regions in Java there are further special police officials appointed with the title of Mantri police, who in this sphere of work find an excellent training for the office of assistant district chief. Finally, in nine residencies there are, for better securing peace and order, armed native police corps, organised, it is true, on a military footing, but under civil administration. These corps consist mostly of an instructor, a sergeant, 1 or 2 corporals, and 20 to 24 policemen, recruited from districts other than those where they serve; the corps at Batavia under the name of the Corps of Piekeniers, numbers 5 sergeants, 9 corporals, and 176 soldiers. For extraordinary circumstances, there are further other armed corps, as in the large towns, the "schuttery," and in Madura, the Barisans.

of the desah chiefs, whose number in Java is about thirty thousand, is often not what it should be. Education on a larger scale, such as is now given, perhaps coupled with other measures, will be capable of effecting considerable improvement in this.

The police duties of the desah chief consists *inter alia* in seeing that the desah regulations are carried out, in establishing a night watch, in keeping supervision over strangers arriving and staying over night and the settlement of strangers in the desah, in the safeguarding, if necessary, of property of passing travellers, the prevention and removal of differences among the villagers, and likewise the arrest of suspects and preliminary decision as to the release or detention of persons arrested by the night watch. The desah chief is held responsible for all detriment arising out of facts which he should, by virtue of his office, have prevented or stopped. If the desah administration detains a suspect, he is required to bring him within twenty-four hours before the district chief, with witnesses and documents, if necessary by the aid of the Mantri

manning the watch houses at the exits from the desah or for patrolling the area of the desah. In addition, the resident judges whether the necessity for the establishment of a desah night watch is quite demonstrated. The number of watchmen for each village may not in most regions amount to more than one-seventh or one-fourteenth of capable men per night, less if possible. Each person under obligation to render service is called upon so far as possible upon a given night in the week, so that the watch is constituted without being summoned. Where there is severe supervision of the night watch, the latter is capable of doing excellent service for safety. It is true that in several parts the trial has been made, with a view, among other things, to relieve from this desah service, of the system of paid and appointed watchmen, but this appears as yet not to have yielded decisive results. The night watch itself provides its arms so far as necessary. In many watch-houses, a barbed spear is found, together with a few implements for extinguishing fires. In the same way as of old in Europe, the night watch in the Indies announces its approach from a distance by striking loudly on a thin hollow bamboo (tetek), which must serve to tranquillise the inhabitants and at the same time is useful as a check to the controlling police, who thus hear that the desah patrol is doing its duty; it has the disadvantage that evil-doers know where the patrol is. This patrol is required also to awaken the Bromo-tjorahs (the standing elements of unfavourable repute in the desah) and to satisfy itself that the latter are not out of doors, and in many parts likewise the well-disposed people, in order to enable them, if necessary, to look around in their house or on their ground and ascertain whether all is well. In the nature of things, this latter measure of fatherly care for the good people is often of problematic value. In the event of crimes or serious accidents, a wooden block (kentongan) which hangs in the gardoes or watch-houses, and which, otherwise, serves for indicating the hour, is beaten. A miniature block is required in many regions by administrative regulations to be available in every house, in order that alarm may be given in the event of theft or murder, by striking this block until the village chief, thus warned, arrives on the spot.

The night watch is authorised to detain those carrying anything suspicious with them and who are not covered by a safe conduct, and those who are presumed to have evil intentions. These suspected persons and articles are brought before the village chief, who decides whether the persons shall be released or not. This authority is given them by the regulations for police, civil law and criminal law procedure among the natives and persons ranking equally with them in Java and Madura, which deal with this matter in full, and which may be referred to as "Inlandsch Reglement." For the Europeans, there are special regulations of criminal law procedure, and for both categories of persons there are separate general police regulations.

The matter, however, does not end with these desah patrols. The Government police is in this respect connected with the desah police. In the districts and sub-districts, the Government police takes the form chiefly of sending out night patrols, whose chief purpose is to supervise the desah watch and take account of persons of ill-fame in the sub-districts. These patrols consist of members of the desah administration (including desah chiefs), who carry out these services



FRONT ROW—INSPECTORS (SCHOUTS).

STANDING—SERGEANTS (OPZICHTERS).

A considerable part of the police work in Java falls on the shoulders of the assistant district chief. The smallest territorial unit which, from a police point of view, must be regarded as the most important, is, however, not the sub-district but the native commune, the desah. This commune, by Government Regulations, is allowed to settle its own economic interests, and it is thus required to attend to matters of public safety. Under the command of the desah chief (Loerah or Bekel), the police service is directed by one or more members of the desah administration, who are usually selected by the chief himself, so that safety in the desah is closely connected with the person of the desah chief. Experience shows that where the reins of the village administration are in the hands of a strong and respected village chief, safety is amply secured, but where they are in the hands of a weak or stupid village chief, or one who is feared owing to his vices or trickery, peace and order are banished for a long time from the desah. The quality

police or the assistant district chief. Furthermore, he attends regularly the prescribed conferences which take place weekly, at the office of the assistant district chief, besides at other times.

The members of the desah administration maintain order in the execution of works in the army and communal service. They watch over the proper execution of the regulations regarding the water supply and distribution, which so often give rise to disputes and crime, exercise supervision during desah festivals, have control over the night watch, sometimes themselves head a patrol, and perform other minor duties.

In almost every native commune there is a night watch, the men of which are not paid, but owe service to the desah. The village chief is bound to call upon all natives in turn who are capable of this service. The residents, however, have taken steps to confine these services within reasonable limits; as a rule, therefore, no other unpaid night police services are required than those for

without payment. The regional regulations fix the maximum number of services which may be demanded of the *desah* administrators in the night patrols, mostly two to four nights per month. In the chief town or village of a division where an assistant resident has his seat, this sub-district patrol is called patrol *kota* or patrol *prijaji* (the town or official's patrol). It is not only administrative or police officials who are bound to render this patrol service, but likewise clergy, the *Panghulus* (Mahomedan advisers of the native courts of justice), teachers, land register officers, &c. This *prijaji* patrol assembles in the evening at the residence of the regent, who, after the return of the patrol, signs the book of rounds. Outside the chief places, the sub-district patrol is sent out to those *desahs* where safety is chiefly wanting.

The district chiefs are required to see that the watch-houses are properly located on the roads, the supervision of which was formerly carried out by army service. For these watch-houses, which are to be distinguished from those of the *desah* *gardoes*, however, paid watchmen are now allowed, who act mostly as ambulatory police, and their number outside the three chief towns in Java amounts to fully 2,600.

In addition to the above-mentioned police supervisors, our legislation further provides for what are called unpaid police officers, i.e., temporary police officers not paid by the Government but by private persons or institutions. They can be allowed only by the chief of regional administration in the following cases :—

(a) At the application of owners and administrators of plantations, to watch over and guard the estates (against arson and thefts of sugar cane) or the produce (theft of coffee).

(b) At the application of the directors of the Java Bank, to watch over its offices in the Indies (to prevent theft of money and securities).

The chief of regional administration indicates to which official (often the district chief) they shall be subordinated, and the latter regulates their work in concert with the persons who supply the funds for their pay. These police, however, receive their pay through the administration. In some regions they are found in large numbers; thus, in 1906, in the residency of Kediri there were 26 inspectors and 256 policemen appointed for the entire year, and, furthermore, 236 police for the period of six months.

An institution of unpaid policemen was specially called into existence in 1896 for combating the cane fires which wrought so much devastation on sugar estates. These fires have not yet stopped, and in the residency of Besocki it was often found necessary to call upon the population to render extraordinary police service in order to bring about some improvement in this state of things.

An important extension of the telegraphic and telephone communication has also contributed to proper policing, as is likewise the photographic and anthropometric identification and finger-print examination, with which trials are still being made. A great deal may further be anticipated in the prevention of crime from the more strict regulations promulgated in 1908 with regard to the importation and exportation, the possession, conveyance of, and trading in firearms, gunpowder, and ammunition.

Moreover, many are the measures aimed at ensuring greater public safety. Among these is the inland passport system, which, however, is only of importance with regard to natives

and foreign Orientals. Europeans, who, within three days after arrival in the Indies, are required to report at the office of the chief of local administration in order to show who they are, whence they come, and what is the object of their coming to the Indies, receive a permit card, by means of which they can, subject to certain restrictions, freely move throughout the Indies. This passport is obtained at the assistant resident's office, and also through the medium of the official tourist office. For travelling in some regions in the outlying possessions, however, with which there is as yet little contact, in the interests of their own safety, a special permit of the chief of local administration is required. Persons sent by the Government to the Indies or born in the Indies, together with some other categories of persons, may, after reporting themselves to the chief of local administration, satisfy all requirements by a certificate of such report. Persons not settled in the country, who, after some time, do not appear to have secured

as regional police and communication vessels. In some parts which are not yet quite pacified the police service is to a considerable extent carried out by the military forces there. As soon as the circumstances in any way permit, however, this task is transferred to specific armed native police corps, such as are found in Java, who are entirely under civil authority.

At present there are on the outlying possessions fully forty such corps in service. In some of these possessions, however, there has been such progress that safety is sufficiently secured by the ordinary police force. For the regions where, for the purposes of industry, hundreds or thousands of Chinese coolies are at work on estates—and these cannot always be numbered among the peaceful elements of the population—a system of labour inspectors has been created for preventing abuses and the disorders which frequently arise from them. The inspectors are entrusted with general supervision over the carrying out of the regulations as to the mutual rights and obligations of employers



EUROPEAN AND NATIVE CONSTABLES (OPPAS).

sufficient means of subsistence, are removed from the colony by the chief of regional administration concerned. This is sometimes done with Chinese. The Governor-General may, in concert with the Council of the Indies, prohibit the stay in the Indies, or in certain parts thereof, of persons not born there, who are deemed dangerous to public peace and order, and allocate to persons born in the Indies a definite place of residence there or prohibit their residence in certain other parts, in the interests of public peace and safety, provided the persons in question have, before such decision, been heard or duly called upon in their defence.

In the possessions outside Java the European police staff is modelled as far as possible on the same pattern as that in Java, but the native staff in those regions is variously organised owing to the very divergent conditions. For the purpose of speedy communication, steam yachts and other boats are stationed in addition to the Government steamers in most regions, which are described

and the workmen in the regions where such regulations (Coolie Ordinances) are in force, and over the recruitment of contract labourers in the Indies for agricultural, mining, and other industries situate both within and without the country. The Chief Inspector, who is under the authority of the Department of Justice, has his residence at Batavia, and makes official tours from there. In the residency of the East Coast of Sumatra, where the Chinese element is represented by one hundred thousand inhabitants, he is assisted by three "Adjunct Inspectors."

In the districts for the foreign Orientals (Chinese, Arabs, and Moors) in the Indies there are chiefs who are entirely independent of the native authorities and directly subordinate to the European administration, and bound to watch over the maintenance of order.

As regards the protected native states, both in Java and the outlying possessions, there are extremely divergent regulations in existence.



GOLD MINING IN SUMATRA REDJANG LEBONG MINE.

MINES AND MINING ADMINISTRATION.

BY DR. J. K. VAN GELDER, Engineer, Government Mining Department.



THE Dutch Indies have been richly endowed by nature with minerals. Their tin, which represents a considerable portion of the world's production, is esteemed owing to its great purity; in petroleum, the Indies are the largest producers after the United States of America and Russia; gold and silver are found in numerous places; coal of excellent quality and lignite are encountered in almost inexhaustible quantities; and the presence of many other minerals, though hitherto in workable quantities, has also been indicated.

Large portions of the archipelago have been, as yet, only superficially investigated. It must be anticipated that they will be found also to contain great mineral treasures.

That the Dutch Indies do not belong so far to the most considerable mining countries is due to various causes.

In the first place, mining has to combat with great difficulties owing to the configuration of the soil, which, owing to the many mountains and almost impenetrable primeval forests, can be explored and opened up only at very great cost. Furthermore, there is still a deficiency for the most part of the requisite skilled labour, which can be trained only by long experience. A result of this want of experience is that many endeavours have failed, and capital has been frightened away. Of later years, however, the mining industry has shown continuous progress.

The legal enactments to which mining is subject are the Indian Mining Law of 1899 and the Mining Regulations of 1906, both of which came into force on May 1, 1907. The chief principle contained therein is that the right of disposal of the chief minerals mentioned in the Indian Mining Law is separated from the property of the soil. Mine investigations may be carried out only by virtue of a licence, which is granted for a period of three years by the Chief of Regional Administration, and may be twice prolonged for a year. The holder of a licence

who discovers a mineral in its natural gangue is entitled to a concession. The concession is granted by the Governor-General for the period of seventy-five years maximum. Holders of a licence and concessionnaires must be Dutchmen or settlers in the Dutch Indies, or companies, the majority of the directors of which are Dutchmen or settlers in the Dutch Indies. For licences, a fixed duty is charged of Fl. 0.025 per hectare, and on concessions a fixed duty of Fl. 0.25 per hectare and a royalty of 4 per cent of the gross proceeds.

The above regulations apply for those regions which are under direct administration and for those having native autonomous administration in which the princes have renounced their mining rights. Where this is not the case, the licences and concessions are granted by the native autonomous administration, subject to ratification by the Chief of Regional Administration or the Government.

At present, mining is carried on both by the Government and by private individuals; the former has hitherto confined itself to working tin and coal; it is possible, however, that the Government will proceed to mine other minerals, for which it is now prospecting extensively.

In the following pages it is intended to give a few historical and geological particulars and a sketch of the present position of the mining industry.

TIN.

This metal is found in the Dutch Indies principally on the island groups forming a prolongation of the Malay Peninsula, chiefly on the three largest islands—Banca, Billiton, and Singkep.

These islands are built up of old shales, the age of which is not yet known owing to the entire absence of fossils. These shales are interrupted by numerous eruptions of granite and other eruptive rocks. All these rocks are partly covered by more recent

formations. The valleys are filled up with diluvial and recent deposits.

The tin ore is seldom found in lodes. It is chiefly found in alluvial and eluvial formations in the valleys, on their slopes, and the flat ridges between the valleys. Here, it is always encountered on the boundary between the hard rock and the loose top soil. The layer of ore is termed "kaksa" by the Chinese miners, and the hard rock, "kong." According as the ore occurs on the bottom of the valleys, on the slopes, or on the ridges, it is distinguished as kollong, koelit-kollong, and koelit ore. The former is mostly deposited far from its original point of location, the finer ore in the lower reaches and the coarser in the upper reaches of the rivers. The ore particles are more or less rounded by attrition during their passage. The koelit ore has been carried but little distance as a rule; it has retained more of its original form, is mostly sharp and angular, and less fine in grain. In some valleys, two or three strata occur, one above the other. In Billiton, the worthless deposits which cover the tin ore are generally thinner than in Banca. Their thickness on the first-named island averages from 4 to 6 metres, and in exceptional cases rises to from 8 to 11 metres. In Banca, workings of from 8 to 12 metres are not rare, whilst the depth sometimes increases considerably, to 18 metres and more.

The ore formation consists of quartz to the extent of about 80 to 95 per cent. It further contains cassiterite, clay, bauxite, topaz, and monazite, and also various ores in addition, such as gold, galena, copper pyrites, magnetite, manganese, and wolframite. Iron and manganese ores are frequently found in the kaksa, and give the latter a dark red, brown, and other colours, and sometimes they cement the quartz particles into hard masses (tet sikoi). Remarkable is the appearance in the ore layer of so-called glass balls, which have been found chiefly at Billiton, and which from this have been given the name of Billitonites. They are identical with the

well-known Moldavite from Bohemia, and are probably of cosmic origin.

In Banca, ore is generally purer than in Billiton. On the former island, wolframite is rare, while magnetite is also wanting as a rule. On Billiton, these minerals occur sometimes in such large quantities that they must be removed by means of magnetic separators, as they make the tin impure; wolframite is, furthermore, a valuable mineral. The thickness of the ore layer ranges, as a rule, between 1 and 4 decimetres, and rarely grows to 1 metre or more. The grade of tin ore diverges very much; usually it amounts to from 2 to 4 per cent. of the layer, and sometimes, though rarely, rises to 10 per cent. or more.

On Banca, Billiton, and Singkep, the mining of the tin ore deposits is carried out in practically the same way. It is done by Chinese associations (kongsies) under the supervision of a European technical staff. In Banca, this is carried on by the Government, and in Billiton and Singkep by the Billiton Company and the Singkep Tin Company respectively. The first-named company has obtained the right of disposal of the tin

mining by means of excavators and suction dredges.

The ore dug out is washed in simple wooden troughs, some score or more of metres in length and $\frac{1}{2}$ to 1 $\frac{1}{2}$ metres in width. By drawing the mass of ore regularly up stream, the lighter sand and clay particles are shifted more and more towards the upper end. Usually, before smelting, the ore is once more washed to remove as far as possible the shaft impurities.

The smelting of the tin takes place mainly in low shaft furnaces resembling the original Chinese furnaces. For fuel and for the reduction of the tin, oxide charcoal is used.

The greater portion of the smelted tin is suitable for the market; a small portion has to be re-smelted to remove the iron and wolfram it contains. This refining is effected by smelting the tin at a low temperature, when fairly pure tin flows off, leaving behind a mass rich in iron. The tin produced in the Dutch Indies is of extreme purity; as a rule it does not contain more than 0.4 per cent. of impurities (iron, lead, copper, &c.).

Below is a table showing the tin production in piculs for a number of years past:—

Year.	Banca.	Billiton.	Singkep.	Total.
Up to 1896	6,734,136	1,560,581	49,887	8,344,604
1897	163,541	89,046	10,931	263,518
1898	192,073	93,603	11,144	297,720
1899	185,974	79,572	9,533	275,079
1900	202,728	80,203	12,980	295,920
1901	171,134	74,812	9,978	255,924
1902	171,214	76,234	7,254	254,702
1903	185,602	64,266	4,618	254,576
1904	148,987	71,707	6,007	226,701
1905	145,298	67,386	7,488	220,172
1906	190,031	62,310	6,715	259,056
1907	191,030	67,024	6,619	265,573
1908	203,990	66,491	6,441	277,111

1 picul = 61.76 kilogrammes.

in Billiton in return for paying five-eighths of the profit to the Government; the latter company works by contract with the Sultan of Lingga.

The Chinese associations are bound to deliver the tin mined by them at prices fixed in advance.

The working of the ore mines is now carried out by washing the soil away by water as much as possible after removing the trees standing on it. According to the nature of the ground, a greater or lesser thickness of soil can be removed in this way, the loosened soil being washed into the open grooves of former workings. In the kollong mines, a layer of 2 to 3 metres thickness is removed in this way; in the koelit-kollong mines, it is for the most part possible to wash deeper—4 to 6 metres are not of rare occurrence. Most of the koelit mines can be washed away above ground down to the ore layer.

When washing will no longer serve, the remaining soil is loosened and carried away in baskets. Finally, the ore layer is reached and dug out. The grinding is effected by the aid of Chinese chain pumps driven by water wheels. In the deeper trenches, steam pumps are now used. For conveying the masses of soil, machine plant has been erected in recent years in Banca, with good results. The total number of steam plants in use in Banca on June 30, 1908, was 104.

For some years past, trials have also been made in Banca and Billiton with machine

Banca tin is sold at Amsterdam and Rotterdam. Billiton tin partly in Batavia, partly in Singapore, whilst Singkep tin is disposed of at Singapore.

The market value of the tin produced in 1908 amounted to about Fl. 25,851,085, as compared with Fl. 28,785,457 in 1907, and Fl. 34,332,744 in 1906, calculated on the average selling price of Billiton tin in Batavia—Fl. 93.29 per picul.

The following table will show the importance of the tin producing industry to the Treasury.

Year.	Net yield of Tin in Banca.	Share in profit of Billiton Company.	Total Profit.
	Fl.	Fl.	Fl.
1897	2,983,000	643,000	3,626,000
1898	4,919,000	1,752,000	6,671,000
1899	12,887,000	1,752,000	14,639,000
1900	14,148,000	3,106,000	17,314,000
1901	9,643,000	2,603,000	12,336,000
1902	9,593,000	2,600,000	12,292,000
1903	11,375,000	2,358,000	13,734,000
1904	9,346,000	2,278,000	11,624,000
1905	10,483,000	4,137,000	14,620,000
1906	17,611,000	2,903,000	20,574,000
1907	15,301,000	1,437,000	16,738,000

In addition to the islands of Banca, Billiton, and Singkep, the occurrence of tin is known in the island of Flores, the government of the West Coast of Sumatra, and the sultanate of Siak in Sumatra.

COAL.

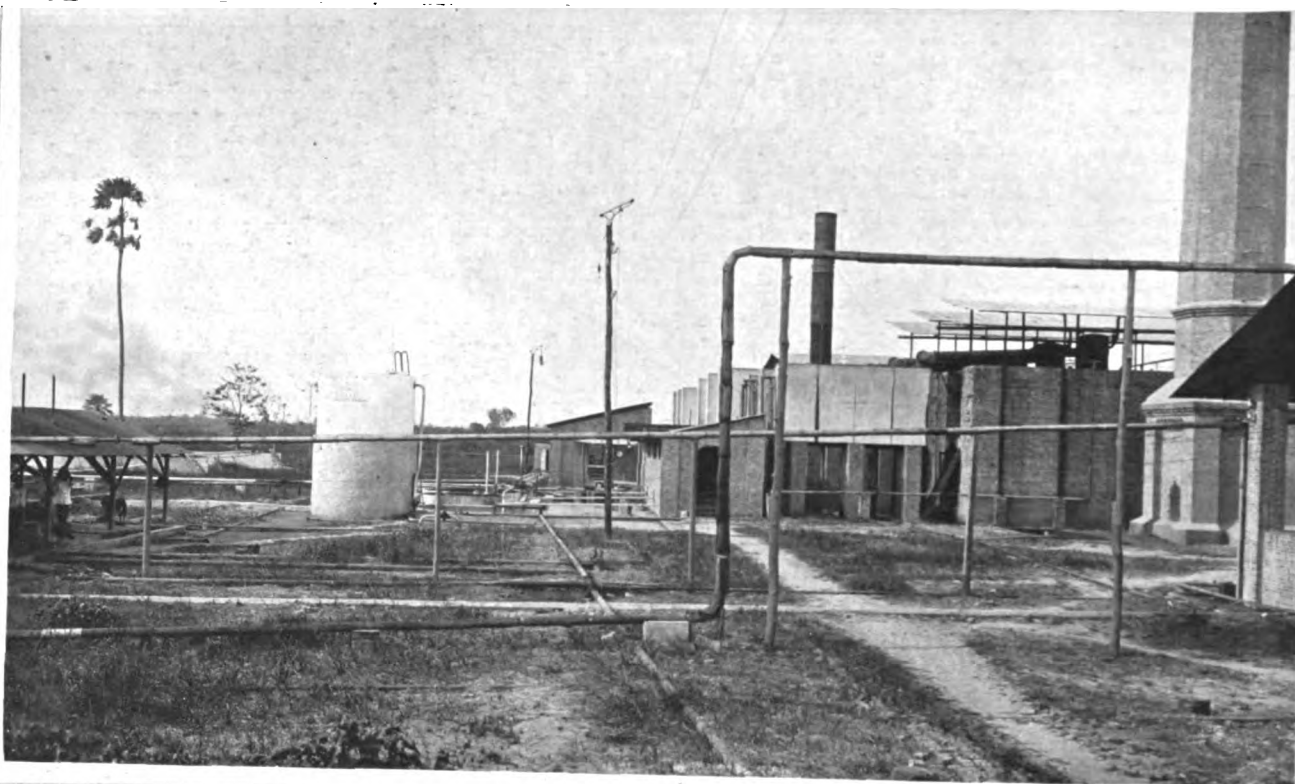
Hitherto, no coal older than the tertiary has been found with certainty in the Indies. The coal formation proper, it is true, has been discovered at numerous points, but only in its lowest stages containing no coal deposits. In the tertiary formation, coal seams, sometimes very thick and extensive, were likewise found. These have been prospected at various points and are being worked here and there. This coal varies in quality. Some of it can be compared with the very best coal. The old tertiary, namely, the eocene strata, yields the best coal. In the upper tertiary deposits, fairly thick lignite seams are encountered, sometimes over great areas, but it is far inferior in quality to the eocene coal. Generally speaking, this later coal contains a good deal of ash and usually more than 20 per cent. of water, whilst the percentage of water contained in the eocene coal is not much more than that of genuine coal. Another point of coincidence with genuine coal consists in the fact that the eocene coal, which is classed, as a rule, among the coals proper, imparts no colour or merely a feeble colour to boiling potash lye, whilst the genuine lignite gives it a dark brown colour.

The chief points where coal has been discovered are in Sumatra and Borneo. In Java, which possesses few minerals, with the exception of petroleum, not many workable coal seams occur. Perhaps, in the future, the Bajah coal-field, lying in the south of the residency of Bantam, may be worked to advantage. These coals are of eocene age, and therefore of good quality. The ground, however, has been so much disturbed that great difficulties will be encountered in working it. Furthermore, the soil is very disadvantageously placed as regards exportation of the product.

In addition to the eocene coal, more recent lignite is found in Java at numerous points, likewise possessing no great value owing to the large contents of water and ash. It is not adapted for steamships and railways, whilst at present there is no demand for coal of the cheaper quality. A coal seam about 1 metre thick at Nanggolan (Djocjakarta), which is classed as oligocene, has received considerable attention. The coal is, however, of very inferior quality. Further, there are some miocene lignite seams in the south of Sedan, in Rembang, which were worked by the Mijnbouw-en Industriele Maatschappij Sedan (Sedan Mining and Industrial Company), though without any great result. The lignite strata of Manik (Bantam) likewise possess, as yet, no practical value.

The most important coal-field in the whole of the Indies is the well-known Ombilin coal-field in Sumatra, situated in the uplands of the residency of Padang. It is about 20 kilometres to the east of the lake of Singkarak, and is connected by railway with the Emmahaven and Padang. The mountain between the coal lands and the Emmahaven compels the railway to make a great detour, the length of which amounts to 150 kilometres, whilst the distance as the crow flies is not more than 60 kilometres. Over a considerable length, the railway is constructed as a cog-wheel railway. Owing to this and to the great lengths of the railway, the cost of transport of the coal is considerable. A shorter connecting route appears to be out of the question for the present. It is not unlikely that a wire ropeway will be found advantageous.

The coal-field has a mountainous sand-stone



RANTAN-PANDJANG OIL COMPANY, TANDJONG POERA, SUMATRA.
(GENERAL VIEW OF WORKS AND MACHINE ROOM.)



RANTAU PANDJANG OIL COMPANY, TANDJONG POERA, SUMATRA.
 1. TESTING THE OIL. 2. CANNING THE OIL.

region, bounded on all sides by non-carboniferous rocks, with the exception of a very long and narrow band continuing to the south-east, but no longer possessing workable deposits. It extends over a length of 10 kilometres (measured from north to south), with a width of 9 kilometres along both banks of the Ombilin River.

The coal-field may be divided into three parts, namely, the Prambanan, the Sigaloet, and the Soengei-Doerian fields. The existing quantity of coal is estimated by the mining engineer Verbeek at about 197 million tons (of 1,000 kilogrammes), of which about 97 million tons occur in the Soengei-Doerian field. This last field has been worked since 1892. The control of the undertaking, both as regards transport and the sale of the coal, is entrusted to the Chief of the State Railway Service of the West Coast of Sumatra.

ment of the fire box. Numerous trials made on various steamers have shown that Ombilin coals are little inferior in quality to Cardiff coal.

The output of the Ombilin mines is constantly increasing. Below is given a survey of the annual outputs, since 1892, in tons of 1,000 kilogrammes :—

Year.	Tons.
1892	1,758
1893	46,975
1894	72,452
1895	107,942
1896	126,284
1897	142,850
1898	149,434
1899	181,325
1900	196,206
1901	198,074
1902	180,702

more than a few hundred tons per year. Latterly, some other coal-fields in Palembang have attracted attention, but no concessions have yet been granted for them.

Eocene coals have been discovered at Tapan, in the residency of the Padang low lands of the West Coast of Atjeh, the Bay of Tapanoeli, and Segala Midar, in the residency of Lampong. Miocene and younger coal occurs in Atjeh, Palembang, Bencoolen, and the Lampong Districts.

The island of Borneo is rich in coal. Regarding West and Central Borneo, nothing much is yet known. At many points, coal of inferior value has been found which is worked here and there by the native population on a small scale. In South and East Borneo extensive prospecting work has been carried out, and has brought to light the existence both of eocene and later coal.



TIN MINING: GOVERNMENT TIN MINES AT BANCA.

The coals are gleaming black, give but little dust, and often have a conchoidal fracture. Their specific gravity is from 1.23 to 1.25. The ash contained is very little (about 0.7 per cent.), and likewise the assay of sulphur (0.35 to 0.60 per cent.). The calorific effect is 7,000 to 7,400 thermal units. The coals ignite easily with a large clear flame, on suitably arranged grates, they leave but little slag (4 to 6 per cent.), do not cake, and give off little soot and no great amount of smoke.

The use of Ombilin coals as fuel can be regarded as a solved problem. In order to be rightly used and exercise no detrimental influence, they require a special method of feeding, and a modified arrange-

1903	201,292
1904	207,280
1905	221,416
1906	277,097
1907	300,999
1908	314,065

In addition to the Ombilin coal-fields, Sumatra further possesses a number of other coal-fields, none of which as yet give rise to extensive working. In the region of Indragiri, the Tjinako Steenkolen Maatschappij possesses a concession for coal mining; up till now there has been no output. The Bahangau concession, situate in the residency of Palembang, and now in the hands of the Exploratie-Syndicaat Lematang, has been worked since 1896, but produces nothing

The eocene coal, like that of Sumatra, contains from 3 to 7 per cent. of water, the old miocene from 9 to 15 per cent., whilst in the later miocene from 15 to 20 per cent. of water is found. Finally, there occur pliocene coals with more than 20 per cent. of water.

The eocene coals in Martapoera, in the south-east of Borneo, attracted attention long ago. In 1849, the Government opened the mine of Oranje Nassau. The coal was conveyed to Riam Kiwa and the Martapoera River for a distance of 100 kilometres, in iron boats, to the chief town of Bandjermasin. After the mine was so far exhausted that working would be too expensive, two shafts were sunk at Pengaron to a depth of



GOLD MINING IN CELEBES.

74 metres. Working was done only on a small scale. The coal, in truth, was found to be of an inferior quality, owing to the large amount of ash and the extensive formation of smoke, soot, and sparks, for which reason working was suspended in 1884. Perhaps the coal would have served better if the stoking had been carried on in the same way as with the Ombilin coals. An improvement could probably be made in the ashy contents by washing.

The coal of Assahan, not far from Pen-garon, was also found to be inadventagous to work. In 1881, working was suspended. Near Martapoera was the Government mine of Delft, and further to the south the private mine, Julia Hermina. In 1859, during an insurrection, the whole staff of these two mines were cruelly murdered and the plant destroyed. Since that time, no attempt has been made to resume working. In addition to the environs of Martapoera, eocene coal has been found at numerous other points in the south-east of Borneo. Here, also, various concessions have been granted, among which the Poeloe Laoet concession of the Poeloe Laoet Coal Mining Company is the most important. This concession, in the year 1906, produced fully 87,000 tons, and in 1907, 93,000 tons of coal. Other concessions, having for their object the mining of coal and lignite, are Mahakam, belonging to the East Borneo Company; Poeloe Nangka, belonging to the Poeloe Nangka Coal Company; Kota Baroe and Semblimbingan, belonging to the Poeloe Laoet Coal Company, and a concession unnamed belonging to the East Borneo Company. For other single concessions, namely, Louise and Mathilde, belonging to the Nederlandsch-Indische Industrie en Handelmaatschappij (Dutch Indies Industrial and Trading Company) as well as for the concession of Loemar and Sintoeroe, in the residency of the Western District of Borneo, coal mining is not one of the principal objects. Moreover, there has been no production of coal.

The young tertiary coal occurring in Borneo in very large quantities is at present of no technical value.

In the eastern part of the archipelago, little is known as to the occurrence of coal. Importance may be found to attach to the discovery of coal in some river beds in New Guinea, which, owing to their formation, must be classed as eocene. Hitherto, however, the original point of deposit of this coal is not known.

PETROLEUM.

The petroleum industry in the Dutch Indies is of recent date. In 1863, it is true, there were several points known in Java, Madura, and Sumatra, where oil occurred, but it was not till about 1800 that the first production of petroleum took place. Within a short time, the industry, owing to powerful organisation, developed into one of the most important in the country. Not only was it able to hold its own with American and Russian competition, but it found an opportunity to place its products in the whole of South and East Asia, and even in Europe.

The chief petroleum fields are found in the residencies of Rembang and Sourabaya, in Java; Palembang, the East Coast of Sumatra, and Atjeh, in Sumatra; and the region of Koetei, in Borneo. It is above all the "Koninklyke Nederlandsche Maatschappij tot Exploitatie van Petroleumbronnen in Nederlandsch Indie" (The Royal Dutch Company for working Petroleum Springs in the Dutch Indies), established in 1800 and

often called for short "De Koninklyke" ("The Royal"), and the "Dordtsche Petroleum Maatschappij" ("Dordrecht Petroleum Company"), established in 1887, to whom this success is due.

With regard to the geology of the petroleum strata there is not much published. In general, it may be said that the oil is found in late miocene strata, and that its occurrence is a confirmation of the anticlinal theory of Hofer and others.

The shafts are usually sunk according to the Canadian method. There is, however, likewise the washing method of boring. Eruptive oil springs are often struck. Some springs yield very large quantities of oil. Thus from one spring on the concession of Telaga Said, in Sumatra, 8,640 litres of oil per day were obtained in 1885 by pumping through a bore hole of 31 metres depth. In 1887, the yield increased to 23,000 litres per day.

In chemical and physical properties, the Indian oils agree partly with the Pennsylvanian and partly with the Russian oil. The oil of Java and Sumatra possesses in general a low specific gravity and high contents of benzine and lamp oil; the oil of Borneo, on the contrary, is mostly heavy, and contains a great deal of residue. In addition to lamp oil, benzine, gasoline, lubricating oil, vaseline, paraffin, and asphalt are obtained from the crude petroleum. The residue is already being used on a large scale as fuel on board steamships and in some factories.

The number of petroleum concessions in Java amounted on June 30, 1908, to twenty-eight; on the possessions outside Java and Madura to thirty-three. We give below the production, in tons of 1,000 kilogrammes, for the years 1907 and 1908 of some of the most important:—

Name.	Region.	Tons—1907.	Tons—1908.
Panolan	Rembang	27,370	25,611
Tinawoen	Rembang	45,161	47,837
XII. Desahs	Sourabaya	15,950	14,601
Made	Sourabaya	18,435	20,000
Mocara Enim	Palembang	135,605	112,650
Karang Ringin	Palembang	18,562	14,236
Bandjarsari	Palembang	19,086	20,002
Babat I.	Palembang	20,280	14,546
Soeban Djerigi	Palembang	79,184	105,516
Lematang	Palembang	22,040	25,336
Telaga Said	East Coast of Sumatra	11,525	9,493
Boeloe Telang	East Coast of Sumatra	164,635	134,519
Peureula	Atjeh (Achin)	229,433	229,558
Mocara	South-East Division of Borneo	100,934	79,047
Tarakan I. and II.	South-East Division of Borneo	15,779	29,584

Appended is a statement of the total petroleum production since 1903:—

Year.	Tons.
1903	870,000
1904	1,049,000
1905	1,200,000
1906	1,301,000
1907	1,328,000
1908	1,255,000

The crude oil obtained is refined in the great refineries of the Dordtsche Petroleum Maatschappij at Wonokromo and Tjepoe, and of the "Royal" at Pangkalan Brandan, Bajoeng Lentjir, and Balik Papan.

GOLD AND SILVER.

These metals always occur together in the Dutch Indies. The existence of gold in the

archipelago has been known for a very long time. As far back as the end of the fifteenth century the Portuguese found native gold diggings in the north of Celebes and in Sumatra. The Dutch East Indian Company worked some mines in Sumatra in the seventeenth century; they were very soon abandoned. Until some score years ago there were only native workings, *i.e.*, in addition to those mentioned above, chiefly the Chinese gold washing works in the Western Division of Borneo. The first European mining concern of recent times is the Ban Pin San concession in this residency. Of a gold industry proper, however, it has been possible to speak only for the last ten years, during which period on the northern peninsula of Celebes and afterwards in Sumatra, in the residency of Bencoolen, important discoveries were made. The reports then circulated caused a gold fever to spring up in Java and Holland. In Batavia and in Amsterdam, numerous companies came into existence, and it was then thought that the north of Celebes would become a second Witwatersrand. The reaction followed speedily; the rich finds stopped, and few of the numerous concessions remain. The result of this was that the confidence of the public in the vitality of a gold industry in this colony received a rude shock from which it has but slowly recovered.

The present centres of gold mining are in the first place the residencies of Bencoolen, in Sumatra, and Menado, in Celebes. In addition to these, the partly European and partly native workings in Borneo must be mentioned.

In Sumatra, the gold occurs in three ways: firstly, in quartz lodes in the old shales and in granite; secondly, in quartz lodes which are connected with post tertiary andesites,

rhyolites, and other eruptive rocks; thirdly, as the alluvial or river gold.

To the second group belong the ores worked by the well-known companies, Redjang Lebong and Ketahoen, in their concessions at Lebong, Donok and Lebong Soelit. The young but promising concession of Simau, belonging to the Simau Mining Company, is said to work similar ores.

The mine of Lebong Donok was discovered in 1800. It lies on the western side of the central Barisan mountain, which extends over the entire length of the island of Sumatra.

Gold had been obtained here for a long time by the natives of the country, as is evident from the numerous trenches and galleries which have been found. The working was conducted in a very primitive way; the richest ores were sought out and

rubbed small in big stone pans, and afterwards the gold was separated from the gravel by washing.

The mine is at a distance of 158 kilometres from Bencoolen. The way thither is through steep mountainous lands, and the laying down of the road has cost considerable sums. Transport over this long distance is still by two-wheeled cart drawn by oxen or horses, and is, therefore, somewhat expensive.

The lode now worked is at the contact of rhyolite and slates, which consists of quartz containing gold in an evenly divided condition; the metal is accompanied by a large quantity of silver, little copper, and lead, and, strange to say, by not inconsiderable quantities of selenium. The general strike of the lode is west to east, and its dip 50 to 70 degrees north. It is exposed for a length of 300 metres. Its thickness at many points amounts to 15 metres. The assay of gold averages 50 grammes, and the assay of silver 200 to 300 grammes per ton. The gold cannot be

works, in the main, the same ores as Lebong Donok, yielded in

1904	275	kgs. of gold and 158 kgs. of silver.
1905	477	" " 472 " "
1906	463	" " 645 " "
1907	636	" " 700 " "
1908	814	" " 1,405 " "

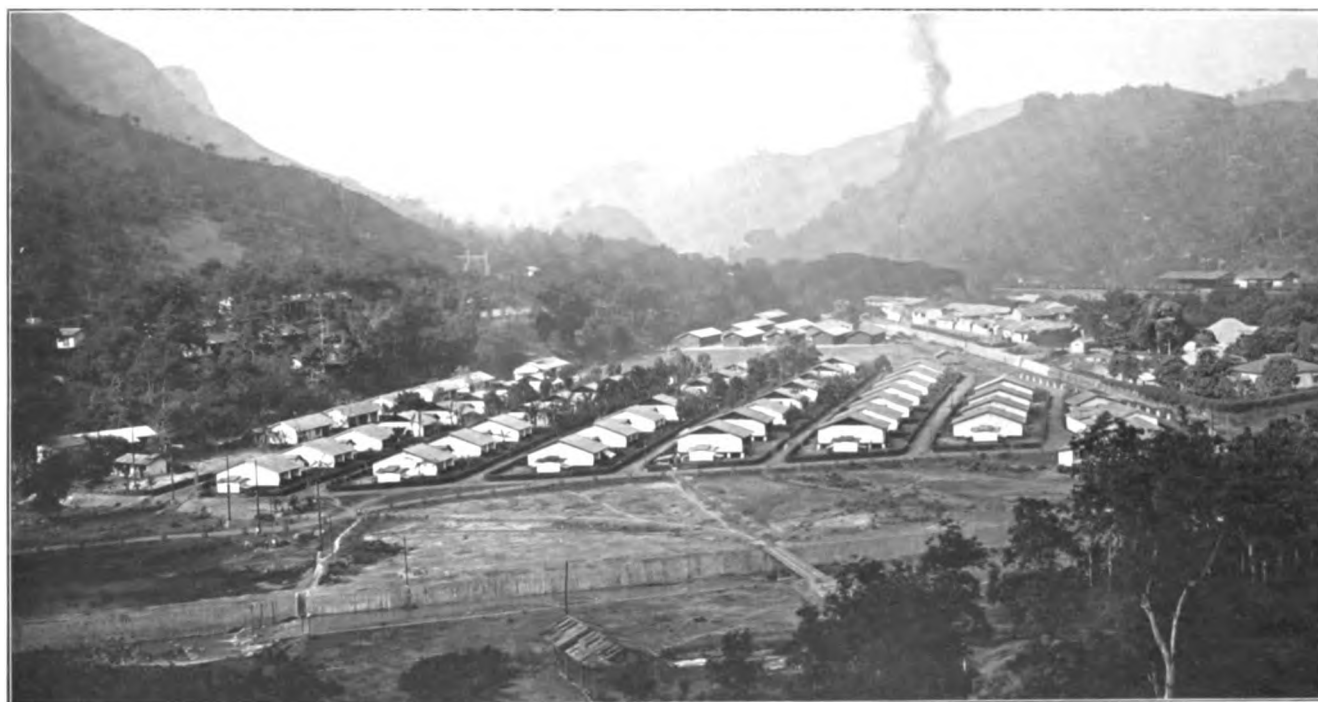
For many years past the Government has carried out investigations in the residencies of Bencoolen and Palembang, with the result that some workable lodes have been discovered.

In Borneo, the gold is worked at many points, but up till now always on a small scale. In the residency of the Western Division of Borneo a number of concessions have been granted to work alluvial gold. Here, in former years, the Chinese carried on mining on a large scale; the rich placers appear, however, to be exhausted for the most part. In the residency of the Southern and Eastern Division of Borneo, the natives have long been engaged in washing gold in

Paleleh concession had good times, but now the rich ores appear to be exhausted. Furthermore, the nature of the ores excavated has slowly changed, so that the concessionnaires are now confronted with the question as to whether a different method of treating the ores should not be adopted. Formerly a fair extraction was obtained by amalgamation and evaporation, but now the ores are more of a sulphide character, and may yield better results by smelting.

The mining concession of Totok appears to promise better results after years of great disappointment. Gold occurs in a peculiar form, namely, in conjunction with quartz, which forms a veritable network of narrow lodes in the limestone rock.

Remarkable is the way in which the ore was formerly mined by the natives. Underground galleries are found, which run very capriciously in all directions with varying heights, horizontal, or sloping at angles reaching the vertical. Some of these drives



SAWAH LOENTO COAL MINES, SUMATRA WEST COAST.

(Workers' Dwellings in foreground.)

seen with the naked eye; it is either free or combined with silver in the proportion of 1 to 10.

The precious metals are extracted by amalgamation and lixiviation with cyanide of potassium. Within a short time, the installation is to comprise 100 stamps, which will render it possible to treat 120,000 tons of ore per year.

A view of the production is given in the following table:—

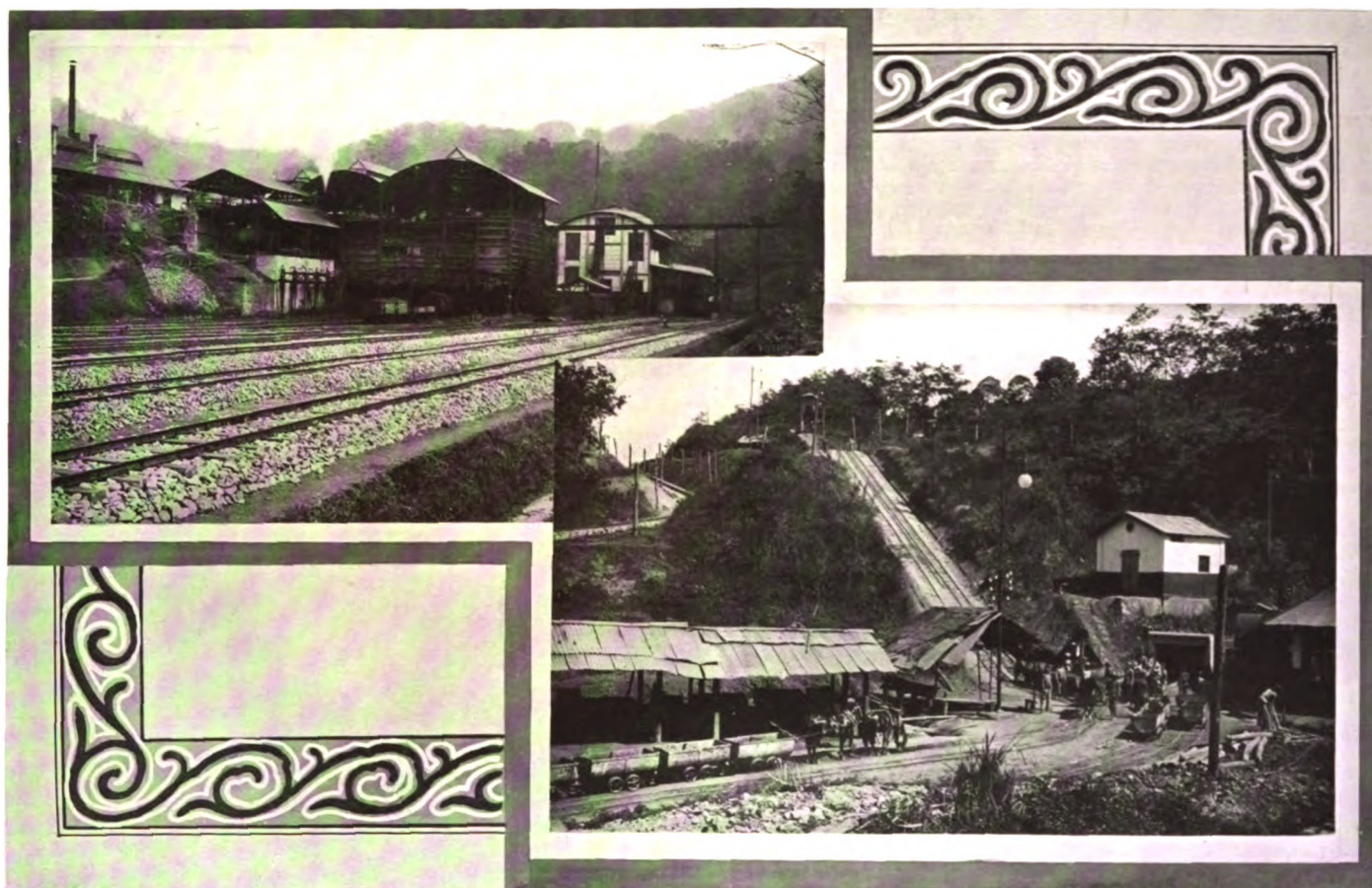
Year	Gold	Silver
1901	582 kgs.	3,727 kgs.
1902	706 "	3,801 "
1903	952 "	5,458 "
1904	915 "	5,478 "
1905	1,178 "	6,778 "
1906	1,426 "	7,600 "
1907	1,804 "	10,188 "
1908	2,577 "	14,971 "

The concession of Lebong Seelit, which

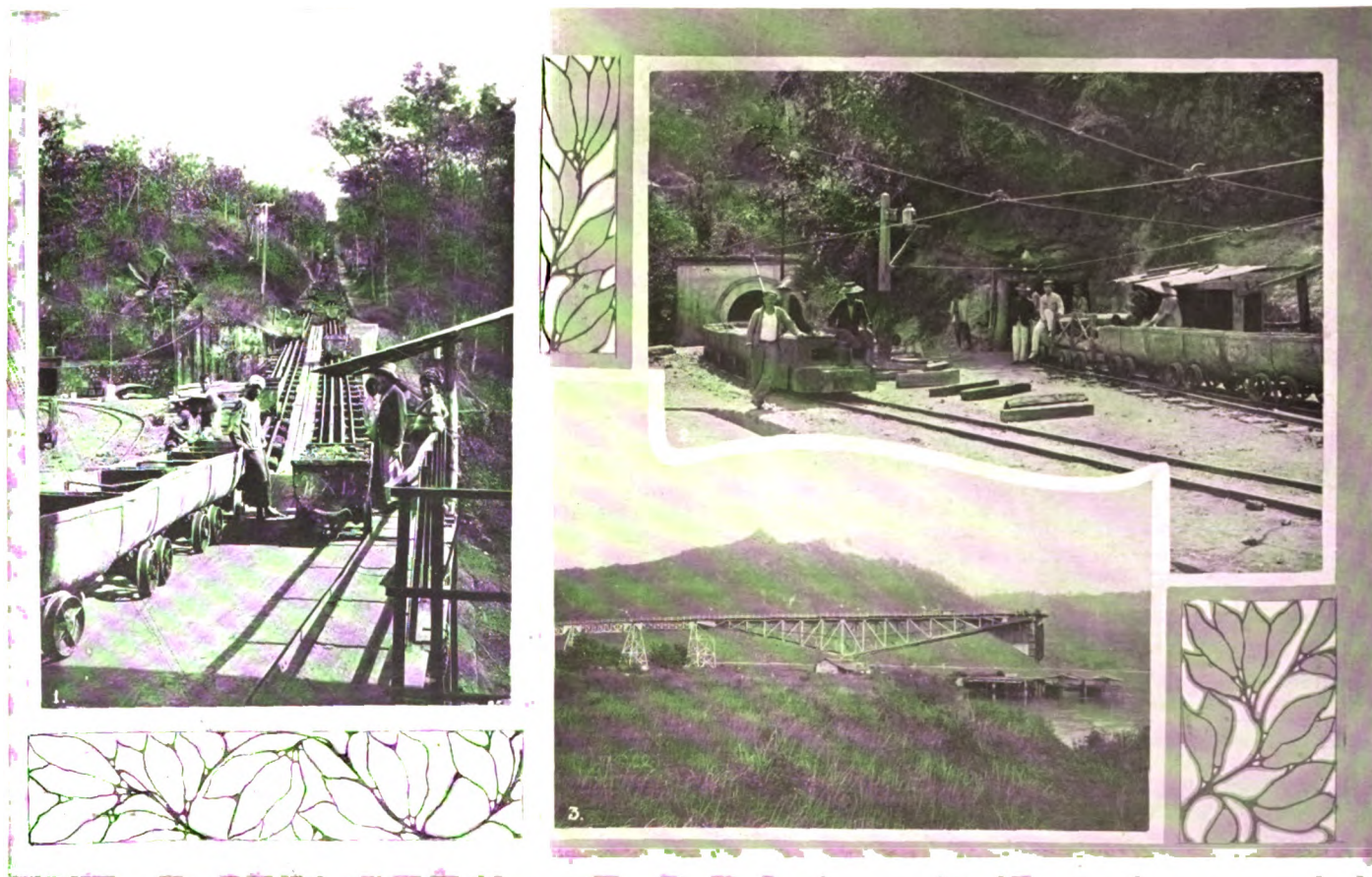
the environs of Martapoera, but at the present time the production is not of any importance. On the concession of Kahanam, in Central Borneo, auriferous lodes are also being worked.

As was stated above, Celebes for a long time enjoyed the reputation of being exceedingly rich in gold. The natives have for centuries washed gold here. Lode ores are likewise treated by them. Until 1847, the native princes of the small principalities situate in the northern peninsula paid their taxes to the Government in the form of gold dust. After that time, working was almost stopped, until the creation of European companies put new life into the industry. Among the numerous concessions which were granted between 1860 and 1906, since the concessions of Soemalata and Kwandang Soemalata were abandoned in 1907, only two, namely, Paleleh and Totok are still being worked. The

are 80 metres long. At one point there is a sort of chamber 7 metres square and 3 to 5 metres high, into which numerous galleries open out. All side walls are covered with the powder of burnt and slaked lime, and this betrays the way in which these hollow spaces were artificially excavated. Wood was piled up against the walls and set alight, by the heat the lime was calcined, and afterwards slaked by the moisture of the ore or by water. This converted the hard rock into a soft mass, from which the quartz veinlets could easily be loosened by means of bars and pickaxes. The quartz which appeared to be richest was crushed fine and washed. Investigations have shown that the existing quantity of ore is very considerable and of a good grade, whilst the extraction can be carried out in a simple way, i.e., entirely by amalgamation. At the present time it is still exclusively the highly weathered



SCREENING AND TRANSPORT STATIONS, GOVERNMENT COAL MINES, SAWAH LOENTO, SUMATRA.



COAL MINING IN SUMATRA: GOVERNMENT COAL MINES AT SAWAH LOENTO.

1. CHAIN RAILWAY.

2. ENTRANCE TO THE MAIN SHAFT.

3. COALING WHARF, EMMAHAVEN.

ore lying at the surface which is mined, chiefly by washing away the limestone altered into clay, thus leaving quartz behind. Exact figures regarding the quantity of gold and silver extracted are not given. Below is a table showing the value of the precious metal obtained from the outset, this metal consisting almost entirely of gold:—

1900 ...	...	...	Fl. 11,690
1901 ...	...	...	77,813
1902 ...	...	...	92,620
1903 ...	...	...	232,831
1904 ...	...	...	261,069
1905 ...	...	...	420,277
1906 ...	...	...	423,854
1907 ...	...	...	466,477
1908 ...	...	...	517,000

OTHER MINERALS.

DIAMONDS.—Diamonds have been found hitherto only on the island of Borneo in the Indies. They are always found in secondary deposits; the gangue or original rock from which they originate is not yet known with certainty. The stratum, for the most part diluvial, in which the diamonds are found, usually consists of weathered rocks. The chief points where diamonds are found are the region of Landak, in West Borneo, and the division of Martapoera, in South-East Borneo.

The diamond industry, at the beginning, was carried on by natives alone. They wash the excavated earth in flat dishes.

The production long ago became unimportant. Even the establishment of some European companies has made no alteration in this.

Formerly the yield of the diamond diggings was fairly considerable. Thus the value of the diamonds mined per annum at the beginning of the last century was estimated at Fl. 1,000,000. About 1850, it no longer amounted to Fl. 100,000. After that time the production almost continually fell off. In 1906 it was estimated to amount to 3,800 carats, of a value of about Fl. 76,000. Some of the diamonds are ground in Borneo. As regards the size of the diamonds, it must be presumed that none are known to weigh more than 100 carats. The largest hitherto appears to be that found at Goenoeng Lawak (division of Martapoera), weighing 77 carats.

PLATINUM.—In the gold and diamond trenches of the division of Martapoera, in Borneo, platinum occurs quite generally, but seldom in any considerable quantity. The region of the platinum is believed to be in the serpentine, and this appears to be correct for the division of Martapoera, inasmuch as here likewise the contact of this rock with the crystalline slates must be deemed to be the original point of excretion. Its constant occurrence jointly with chromic iron makes its origin from serpentine still more probable. The metal is extracted in small quantities by natives. Formerly they threw it away because they were unable to melt it. No particulars are available regarding the production of platinum.

COPPER.—Although copper ores are found in various places in the Indian Archipelago, the quantity hitherto has been too small to form the basis of remunerative working.

In Java, copper ore is known to occur in the residences of the Preanger Regencies and Madioen. In the last-named region, a short time ago, two concessions were granted, Tegalredjo and Tegalredjo II. At the outset good results were obtained.

From time immemorial Timor has had the reputation of being rich in copper. The mineral is widely disseminated, but nowhere in large quantities.

In Sumatra likewise, copper ore has been found at many points, some of very good assay. Here too, however, no regular mining has been undertaken.

Remarkable is the occurrence of copper in the Western Division of Borneo. Here massive copper occurs in alluvial soil, which likewise contains gold. The quantity existing, however, appears to be small.

Similar massive copper is found in Central Celebes. Still, little is known as yet of the deposits. In the division of Gorontalo on that island, copper ores are always accompanied by gold, as in the Western Division of Borneo. On the mine concession of Soemalata, the gold ore was for some time melted in furnaces, yielding a cupreous matte. This working was stopped, however, as results were not satisfactory.

LEAD ORES have also been met with in many parts of the archipelago, chiefly in Sumatra and in Borneo. On the last-named island, they were at one time worked by the Mijnbouw Maatschappij Boekit Pondok (Boekit Pondok Mining Company). Operations have been stopped for some years. Deposits are reported to occur on the islands of Lombok, Ceram, and Flores.

MANGANESE ORES are known in Sumatra, Banca, and Java. On the last-named island, concessions of Kliripan and Penggoeng have

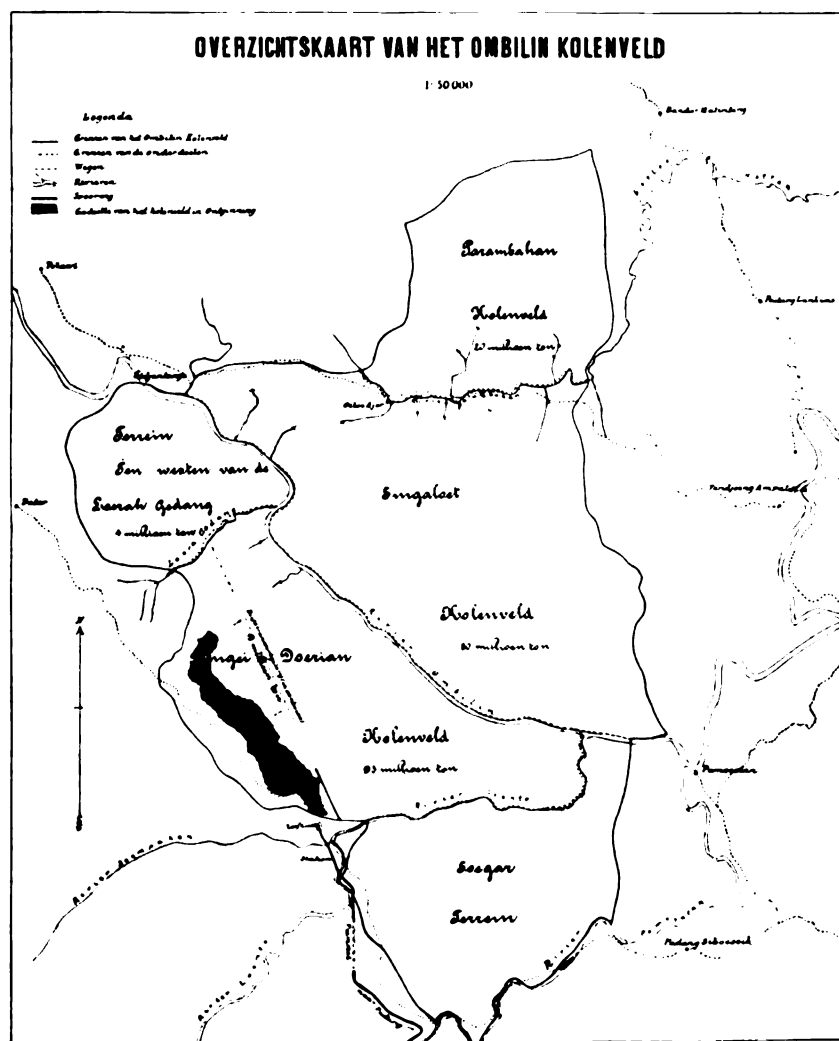
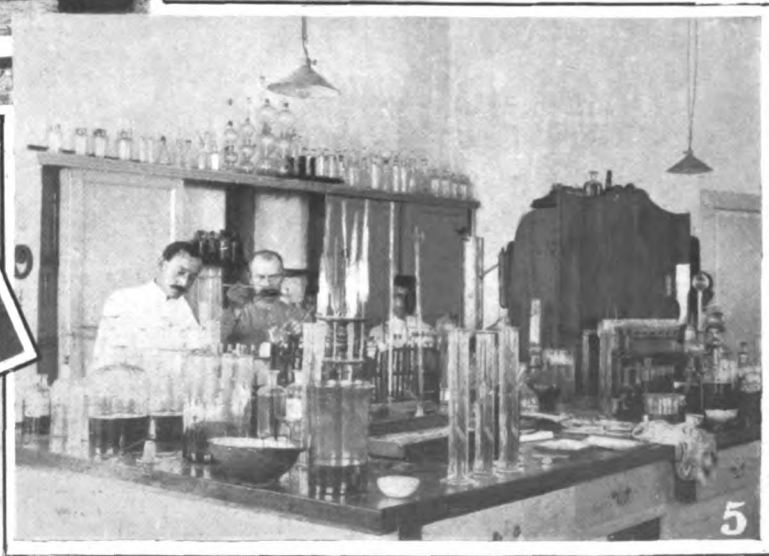
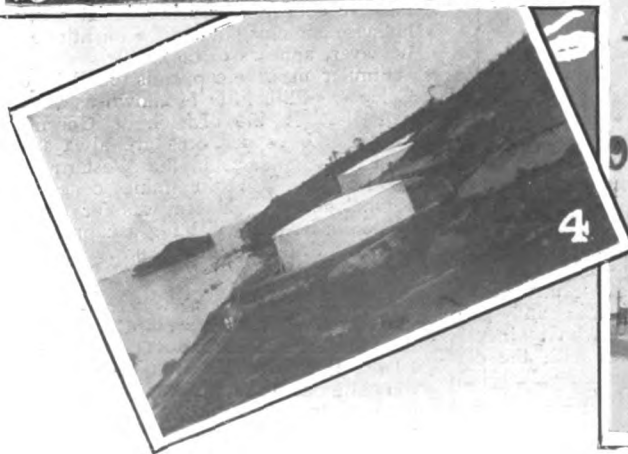
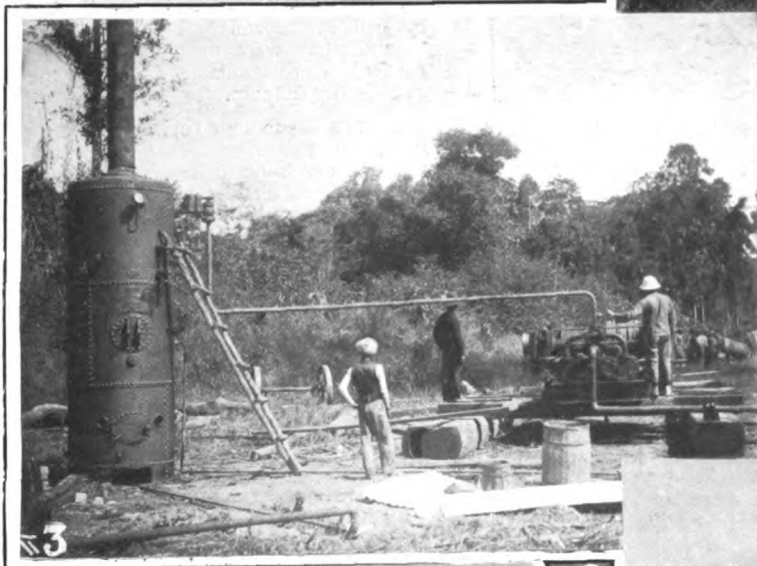
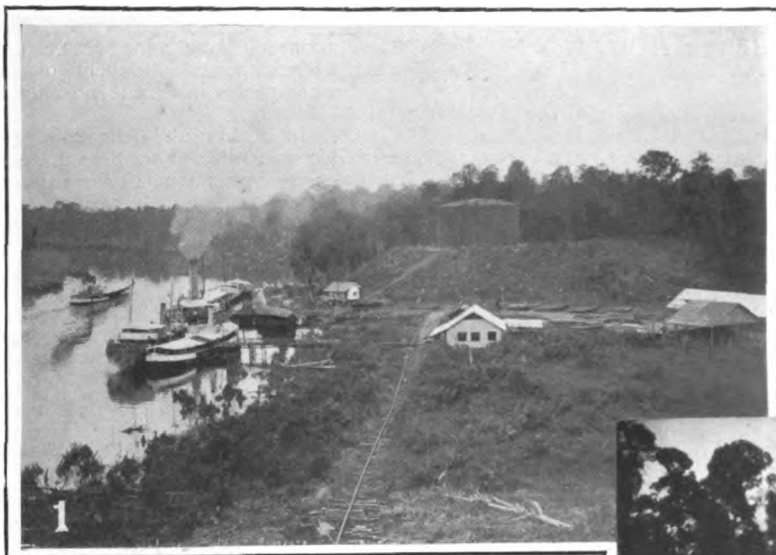


CHART SHOWING COAL FIELDS AT OMBILIN.

Finally we give below a table of the quantity and value of the gold and silver production since 1900:—

Year.	Gold.		Silver.	
	Quantity. Kilgs.	Value. Fl.	Quantity. Kilgs.	Value. Fl.
1900	745	1,195,000	—	—
1901	1,213	2,014,000	—	—
1902	1,388	2,202,000	—	—
1903	2,131	3,365,000	—	—
1904	1,040	3,200,000	5,762	270,000
1905	2,330	3,827,000	7,730	348,000
1906	2,619	4,117,000	8,422	454,000
1907	3,160	5,056,000	11,135	550,000

The concentrated mass in the centre of the dish consists of magnetic iron and gold (mostly with a little platinum), which minerals are constantly found together with the diamond. The Chinese, who were called into the country by the native princes, follow a somewhat different method. They arrange wooden water conduits step or stairwise, and empty into them above the diamondiferous soil. The water current then separates the minerals according to their size of grain and specific gravity. The finer gravel is then washed in washing pans.



DE BATAAFSCHE PETROLEUM MAATSCHAPPIJ.

1. NEW PIER AT SOFNGLI DALEX, BORNEO.
2. WELL NO. 10 AT LOUISE, BORNEO.

3. HAULING BY STEAM WINCH, A LARGE IRON-
WOOD PILE FOR NEW PIER AT LOUISE.

4. OIL TANKS AT POELOE SAMBOE.
5. LABORATORY AT BAGOES KOENING.



DE BATAAFSCHE PETROLEUM MAATSCHAPPIJ.

1. EUROPEAN HOSPITAL AT PANGKAJAN BRANDAN, SUMATRA

2. GUARD FOR PROTECTION OF MEN'S WAGES, KROENG DIWA, NORTH ADEL.

been granted in the residency of Djocjakarta. In 1907, Kliripan produced about 4,500 tons of manganese ore.

WOLFRAM ORES have been found at Banca, Billiton, and Singkep, where they accompany the cassiterite. On Billiton and Singkep there was some mining in 1907, about 500 tons, and in 1908, 345 tons.

SULPHUR occurs in the craters of most of the active volcanoes. It has been worked on a small scale by natives in the craters of the Papandajan (residency of Preanger Regencies), and of the Welirang (residency of Pasoe-roean).

IODINE is known in some springs in Java. In the residency of Sourabaya, 45,802 kilogrammes of iodine of copper were obtained in 1908, and 28,660 kilogrammes in 1907.

MARBLE of a good quality occurs in Java in the south of the residency of Kediri. On the concession Wadjak, it is worked on a small scale. This marble is of tertiary age, but in contrast to what is usually the case with tertiary marble, it is very hard and firm, and is fully equal, according to the testimony of experts, to the best qualities of Italian, French, and Belgian marble.

A marble of good quality is found on the West Coast of Sumatra.

THE OMBILIN MINES.

ON account of their special importance a short detailed description of the Government coal mines at Sawah Loento is appended. The figures, which have been supplied by Mr. R. van Tiel, the engineer-director, supplement those given in the general article by Dr. Gelder, and should prove of considerable value to engineers and others interested in mining operations.

The Ombilin Mines are situated in the Tanah Datar division of the residency known as the Padang Highlands (Padangsche Bovenlanden) on the West Coast of Sumatra, and take their name from the Ombilin River which traverses the district. The presence of coal in workable quantities in this locality was discovered by De Greeve, a mining engineer, in 1868, and now the five divisions into which the coal-fields may be divided are estimated to contain nearly two hundred million tons:

	Tons.
1. The Perambahan Coal-field with	20,000,000
2. The Sigaloet " "	80,000,000
3. The Soengei Doerian " "	93,000,000
4. The region west of Loerah-Gedang ...	4,000,000
5. The Soegar region ...	—

The mining operations are carried on in the Soengei Doerian coal-field only where there are three beds of coal, the bottom one being from 5 to 20 metres thick, the middle bed from 1½ to 3, and the top bed from 2 to 3 metres thick. The strata run north by north-west and south by south-east, rising towards the Ombilin River. The coal is obtained chiefly from the lowest and highest strata, the middle layer having proved workable in the northern part only, towards Soengei Doerian. The three strata are opened up by three horizontal galleries, and in the principal galleries the coal is transported by horses or electric locomotives, the power required for work and lighting being supplied by a central station close to Sawah Loento.

The coal is black and glittering, and burns easily with a long flame, and is especially suited for steam production. The composition of an average piece of air-dry coal is as follows:—Carbon, 70.40 per cent.; hydrogen,

5.35 per cent.; oxygen and nitrogen, 13.20 per cent.; ash, 3.23 per cent.; water, 7.70 per cent. Compared with Cardiff coal, the value is 100=124. The coal is cleaned in a sifting house (zeefhuis), a small portion being washed with water in rotating drums, and is then collected in gathering troughs (verxamelbakken), and conveyed immediately to the railway waggons, the mines being connected with the coast by a railway 115 kilometres long.

The production of the mines and the quantities of coal used by principal consumers for the past five years are given below:—

Year.	Production.	State Railway.	Marine Dept.	Private Shipping Companies.	Harbour and Coaling Station, Sabang.
1904 -	200,071	106,574	23,733	67,781	2,153
1905 -	221,416	96,684	43,855	70,200	402
1906 -	277,097	95,957	45,198	90,624	26,153
1907 -	300,000	93,719	41,730	104,730	41,028
1908 -	314,065	82,148	35,266	118,456	43,853

The coal that is to be sold is regularly tested in the laboratory for the proportion of ashes and water.

The management of the mines is united with that of the Sumatra State Railways under one chief. The staff consists of an engineer-director, two mining engineers, a chief mechanic (werktuigkeendige), an accountant, and the necessary number of employés for the administrative, technical, and medical work. There are three classes of labourers—Javanese contract coolies, convicts (dwangarbeiders), and free labourers—the last being Malays and natives of the island of Nias. The contract coolies and the convicts are employed in mining, and are lodged in so-called "tangsies" (barracks), the quarters for the married men being screened off into small rooms; the free labourers are engaged chiefly in the transport and other unimportant work. Both the contract coolies and the convicts are fed and clothed by the Government, but the free labourers provide for themselves. Invalid labourers are attended at the hospitals on the coal-field until they are once more fit to resume their work.

Mr. R. van Tiel, the director of the mines, was born at Leyden on May 8, 1875, and, after a brilliant scholastic career in Holland, was appointed to his present position at the early age of twenty-four. In the course of a few months, he retires after ten years' service, and leaves behind him a record of which many engineers of twice his years might be proud.

BATAAFSCHE PETROLEUM MAATSCHAPPIJ.

THIS Company, incorporated at The Hague (Holland), was established in 1907 as a result of the amalgamation of the interest of the two petroleum concerns, the Royal Dutch Petroleum Company (De Koninklyke Nederlandsche Maatschappij tot Exploitatie van Petroleum-bronnen in Nederlandsch-Indie) and the Shell Transport and Trading Company. It is under the management of a board of directors, consisting of ten members, and has a capital of Fl. 80,000,000—divided into five shares, each of Fl. 16,000,000—of which three are owned by the Royal Dutch Petroleum Company and two by the Shell Transport and Trading Company.

In Netherlands India, the Company is represented by the head administrator, who from his office at Batavia (Tanah Abang 31-32), controls three large producing centres, situated at Pangkalan Brandan in the north of Sumatra, at Pladjoe (Palembang), in the south of Sumatra, and Balikpapan (Koetei),

Borneo. In addition to its many prospecting licences, the Company's concessions in North and South Sumatra and Borneo cover areas of 67,000, 67,000, and 244,000 hectares of ground respectively, which in 1907 yielded as much as 1,120,000 tons of crude petroleum. Further explorations are being made in the residency of Rembang, Java.

At its large refineries at Pangkalan Brandan, Pladjoe, and Balikpapan, and at the refinery which it has rented at Bagoes Koening (residency of Palembang), the Company produces benzine, kerosene, motor oils, lubricating oils, turpentine substitutes, batching oil, pitch, liquid fuel, paraffin-wax, candles, &c.

The transport in bulk of the crude petroleum, kerosene, benzine, liquid fuel, and other products is effected by a large fleet of tank steamers, owned by the Bataafsche Petroleum Maatschappij, the Shell Transport and Trading Company, the Asiatic Petroleum Company, the Nederlandsch-Indische Industrie en Handel-Maatschappij, and the Nederlandsch-Indische Tank-Stoomboot-Maatschappij. The shipping of the products is under the special supervision of the Anglo-Saxon Petroleum Company, and having reached their various destinations they are handed over to the Asiatic Petroleum Company, Ltd., London, for distribution and sale.

DORDT PETROLEUM COMPANY.

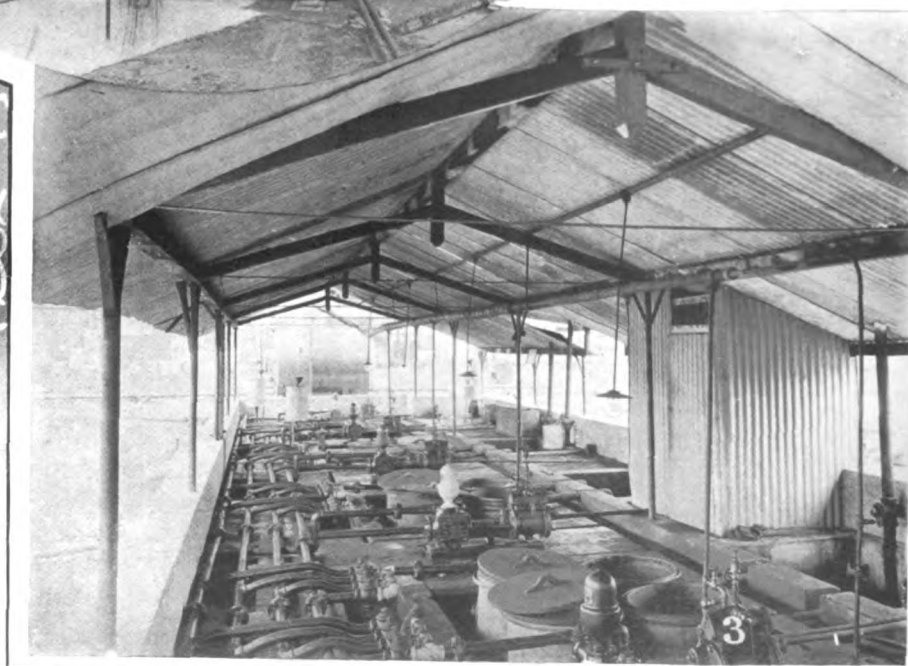
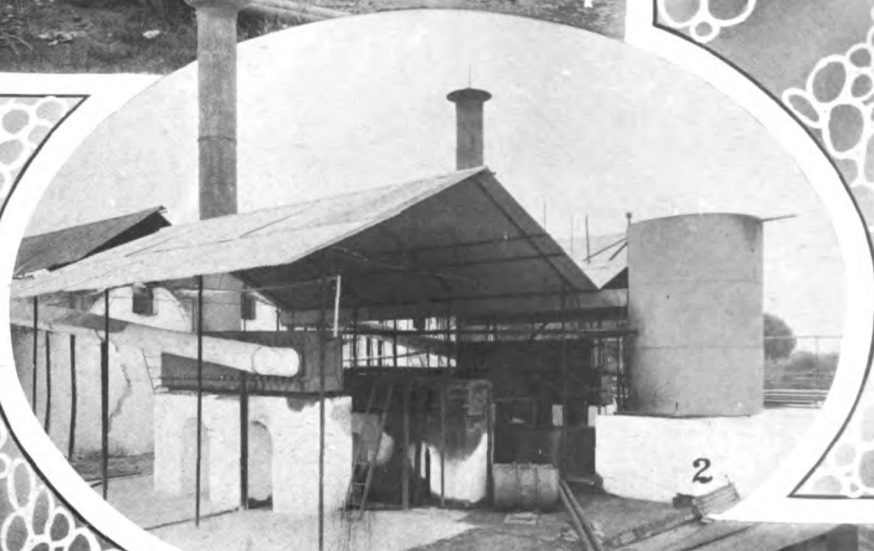
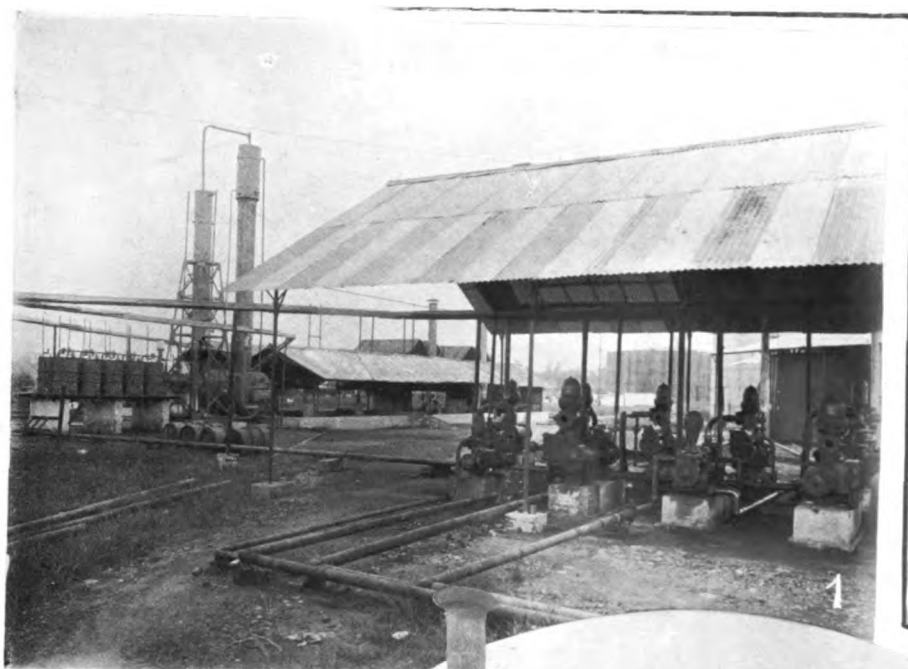
DEVELOPED in a manner beyond the most sanguine expectations of its promoters, this company was established by Mr. A. Stoop in 1887, and approved by Government warrant dated August 24 of the same year. The capital was comparatively small, originally amounting to only G. 75,000. In 1890, however, after it had been proved that there was sufficient oil obtainable in the Djaba Kotta Concession, residency of Sourabaya, to make it worth working, the capital was increased to G. 350,000, a small refinery was started in the immediate neighbourhood of the wells, at the village of Medang, but as the situation was not a favourable one for the transport of the rapidly increasing output, a new factory was erected in the village of Djagir, on the Kalimas, the large river that flows through Sourabaya, and close to the station of Wonokromo on the Government railway. Towards the close of 1892, a factory for the production of lubricating oil was added. This oil was in immediate demand by the numerous sugar factories in the district, while the asphalt obtained as a by-product was used to harden the pavements of Sourabaya, which, as a result, are now as good as any to be found in Netherlands India.

At the beginning of 1893, oil was found in the villages of Gogor and Lidah Koelon, in the district of Goenoeng Gendeng, residency of Sourabaya, and the Company applied for and obtained the concessions of the "twelve villages," and Lidah Koelon. At this period, the Company also took over, under a royalty contract, from a group of persons who afterwards formed the "Panolan Company," a mining concession in Panolan, in the district of Blora, residency of Rembang, and towards the end of 1893 petroleum in very large quantities was found there. This locality being far removed from Wonokromo, but near to many inland places, where a great deal of petroleum is used, it was decided to build a factory on the spot, a suitable site being found on the Solo River, at the village of Ngareng, not far from the station of Tjepoe on the Goendih-Sourabaya Line of the Netherlands India Railway Company. Both the factory and the wells here



THE DORDT PETROLEUM COMPANY, TJEPPE, JAVA.

- | | | |
|---|--|---|
| 1. PART OF PETROLEUM REFINERY (foreground);
PARAFFIN PLANT (background). | 4. STILL BATTERY FOR DISTILLING CRUDE OIL.
(Residue Tanks in foreground). | 6. PART OF PETROLEUM REFINERY: BOILER
PLANT (right); DISTILLING STILL WITH
FISCHER CONDENSERS (center); BENZINE
RECTIFYING PLANT (left). |
| 2. PETROLEUM CAN MANUFACTORY. | 5. PLANT FOR CONTINUOUS DISTILLATION OF
PETROLEUM. | |
| 3. GROUP OF AGITATORS. | | |



THE DORDT PETROLEUM COMPANY'S WORKS AT WONOKROMO, JAVA.

1. BENZINE FACTORY (RECTIFYING APPARATUS (left); CENTRAL PUMPING PLANT (right).

2. PETROLEUM DISTILLING PLANT WITH FISCHER CONDENSER.

3. THE TAIL-HOUSE.



THE DORDT PETROLEUM COMPANY'S WORKS ON THE LIDAH KOELON CONCESSION, JAVA.

1. PUMPING WELLS BY MEANS OF WIRE ROPE.

2. DRILLING A WELL.

3. PUMPING THE WELLS.

were placed under the direct charge of Mr. J. A. Stoop.

A third refinery was built, in Semarang, in 1896, which was supplied with crude oil from Tjepoe. Originally the oil was brought by pipes from Tjepoe to Blora, whence it was conveyed in tanks to Semarang by the Semarang-Joana Steam-Tram Company. Later on this company extended its lines from Blora to Tjepoe, so that the oil is now taken in tanks direct from Tjepoe to Semarang. Early in 1896 the Dordt Company still further extended its activities by entering into an agreement to take over all the crude oil from the company working the Tinawoen Petroleum Concession. It was afterwards found that the residue from this oil contained a large percentage of paraffin, and in order to make the most of this the Dordt Company built a paraffin factory at Tjepoe. Great difficulties were encountered in the first stages of this new enterprise, but these being overcome, the factory now contributes

its share to the Company's profits, and as the Dordt Company has purchased the majority of the shares in the Tinawoen Company, its supply of crude oil from the Concession is secured for the future.

The management of the Dordt Petroleum Company in Holland was entrusted to Mr. A. Stoop, who, since 1899, has been assisted by Mr. C. L. M. Lambrechtsen van Ritthem as co-director. In 1902, Mr. J. A. Stoop returned to Europe, leaving the management of the Company's affairs in Netherlands India to Messrs. J. Bienfait and H. Blok Wybrandi, both of whom had been in the Company's service since 1892. In March, 1906, Mr. J. Bienfait resigned, and was succeeded by Mr. N. Wing Easton.

The Company's business is still increasing, especially in the by-products from the oil refineries, while in 1908 the production of petroleum constituted a record. The following figures will show very clearly the progress the Company has made :—

Year.	Production of Petroleum in Cases.		
1889	8,000
1890	27,760
1891	79,179
1892	247,839
1893	276,062
1894	452,728
1895	779,239
1896	1,206,105
1897	1,494,976
1898	1,490,338
1899	1,642,780
1900	1,649,129
1901	1,664,284
1902	1,535,127
1903	1,702,222
1904	1,990,605
1905	2,005,899
1906	1,994,664
1907	2,083,522
1908	2,139,493



STATUE OF TEMPLE ATTENDANT, IN RESIDENT'S GARDEN, DJOCJAKARTA.



MAGNETICAL STATION, ROYAL OBSERVATORY, BATAVIA.

CLIMATE OF NETHERLANDS INDIA.

BY DR. C. BRAAK, Acting Director of the Royal Magnetical and Meteorological Observatory, Batavia.



THE Malay Archipelago extends from 6° north to 10° south latitude, and from 95° to 141° east longitude, by far the greater portion lying in the southern hemisphere. The high mountain ranges which traverse the islands and spread out in several directions give to their outlines the most fantastic forms. They also influence the climate very strongly, and make a general description somewhat difficult. When rainfall is due to great atmospheric disturbances, as in moderate climates, it is much less dependent upon local influences than the tropical showers which mostly occur where the air is forced to rise by local heating or elevation of the ground.

The situation of the islands in their relation to the continents of Asia and Australia is the greatest factor in determining the weather they shall enjoy. Owing to the influence of these continents, situated to the north and south, monsoon winds blow steadily during alternate seasons. These winds increase the localisation of rainfall considerably, and in the greater part of the archipelago well-marked wet and dry seasons occur. Temperature changes are small, and are principally due to the presence of heavy or light clouds. An abundant rainfall is the principal feature of the climate, and its extravagances are practically the only way in which the inhabitants of this land of eternal summer are reminded of the power of the elements. As it is chiefly the direction and force of the wind that determine the rainfall and sunshine, a preliminary chapter dealing, in some measure of detail, with this subject will form the best basis for a description of the climate.

DIRECTION AND FORCE OF THE WIND.

A general survey of the winds prevailing in the Indian Archipelago in different months may be best obtained by a discussion of the monthly means of wind direction and wind

force. These have been taken from observations made at sea, and are only slightly subject to local influences. In the month of January, the sun, heating intensely the Australian deserts and the shallow Torres Strait, gives rise to a strong barometric minimum in these regions. Then over nearly the whole archipelago northerly winds prevail. On the equator they deviate only slightly from this direction, but owing to the influence of the earth's rotation and the cyclonic and anti-cyclonic wind systems above the continents, they are more north-easterly on the northern, and north-westerly on the southern hemisphere. In March the winds become less stable; the general distribution of monthly means, however, remains unchanged. In April, over the whole southern part of the archipelago, the wind changes its direction, and prevailing south-east winds appear. This turning of the monsoons is marked by a time of relatively feeble and very variable winds, accompanied by thunderstorms and oppressive weather. In May, southerly winds prevail over the whole region. Over the minor Sunda Isles and Java, the wind is south-easterly, being nearly but not quite the opposite to the western wind of the west monsoon. These conditions last several months, increasing in stability and vigour till July or August, then decreasing till November, when over the whole area the direction of the wind is unstable. In December again northerly winds prevail, and the same features as are noticed in January are assumed, with the exception of Java and the minor Sunda Isles, where the south-west winds of the Indian Ocean are still blowing. The force of the wind is very small; it does not often attain the velocity of a gentle breeze, while records of wind forces attaining the vigour of a strong breeze are extremely rare. The highest mean of wind force, taken over the whole year, is found in the southern part of the Banda Sea. The China Sea, the eastern part of the Java Sea, and the Indian Ocean to the south of the Sunda Isles, have also

relatively high means of wind force. The lowest records are found on the north-east coast of Borneo; the north-east and west coast of Achin, in the Macassar Strait, and the Celebes Sea. Even in January and August, when the monsoons have the greatest stability the direction of the wind is not always constant, as is shown by the following table, which gives the largest number of times, in each hundred observations, that the wind was found to blow from one of the sixteen principal wind directions:—

	Steadiness of the monsoon in per cent.	
	January.	August.
West Coast Sumatra ...	16	23
China Sea	81	58
Java Sea	71	71
Indian Ocean, south of Java ...	57	55
Celebes Sea	40	34
Macassar Strait	41	48
Malacca Sea	67	65
Minor Sunda Isles	57	56
Timor Sea	66	55
Ceram Sea	59	68
Banda Sea, north	65	85
Banda Sea, south	89	96
North Guinea, north coast ...	93	—
Haratocera Sea	62	92

On approaching the coast there is usually a well marked difference between the direction of the wind during the day and during the night, in consequence of well-developed land and sea breezes. Especially where high mountain ranges gradually slope to the sea, these winds may acquire a remarkable strength and regularity, and are still felt at a distance of more than ten miles from the shore. On the north-east coast of Achin, their steadiness amounts to 42 per cent., on the east coast to 37 per cent., and on the north coast to 23 per cent., the same as in West Sumatra and Madura Straits. These are the highest records. On Achin's east coast the land breeze occasionally comes down in sharp gusts, dangerous to small

sailing vessels. These sudden squalls are accompanied by rain and thunderstorms, and are known under the name of "Sumatranen." To the south of the Riouw Archipelago winds of the same kind also occur.

TEMPERATURE.

There is no place on earth where the temperature is so uniform over so large an area as in the Malay Archipelago. It is almost the same throughout the year. On the coast the mean temperature oscillates between 26° C. (Batavia) and 27° C. (Palembang). The smallest difference between the mean temperature of the warmest and coldest month is 1° C. (Batavia, Padang), while the greatest difference amounts only to 2° C. (Amboina). The mean daily variation is also small, being 6-7° in the dry months, decreasing to 4-5° during the wet season.

RAINFALL.

As differences in temperature are very slight, the seasons are determined by the amount of rainfall, and the year, roughly speaking, is divided into a wet and a dry season. These seasons, however, possess different characteristics, and occur at different times in various localities. In the northern part of Sumatra the monsoon brings a maximum of rain in August. At places near the equator, rain, resulting from the rising air currents, is almost constant. In the southern part of the China Sea, in the Java Sea, and over the Sunda Isles, well-developed monsoons bring an abundant rainfall in December, January, and February with the maximum in February. In the western part of Java and the southern part of Sumatra, the dry season has more rain than is the case with the dry season in East Java, but, nevertheless, the difference between the two monsoons is always well marked. In the Moluccas, however, where north-westerly winds prevail in January and south-westerly winds in August, both monsoons bring an abundance of rain. Such are the general conditions, although of course, great deviations are often caused by local influences.

The amount of rainfall in the Dutch East Indies is considerable. At none of the stations where observations are taken, with the exception of Asembagoes, are there less than 1,000 mm. of rain during the year. At Asembagoes, on the north coast of the most easterly part of Java, the annual rainfall is 855 mm. In the greater part of West Java and Celebes, and in the whole of Sumatra and Borneo, the average rainfall during the twelve months exceeds 2,000 mm. Of the 700 stations in Java where observations are made 132 record a rainfall of 3,000 to 4,000 mm.; 61 from 4,000 to 5,000 mm.; 7 from 5,000 to 6,000 mm. and one from 6,000 to 7,000 mm. per annum; while at the 127 stations scattered over other parts of the archipelago the rainfall in ten instances amounts to more than 4,000 mm., while at Oeloe Liman Manis, which is situated in the mountains near Padang, Sumatra, the average fall for the year is over 5,000 mm. Tombo, however, on the northern slopes of the mountains of central Java, has the distinction of being the wettest place in the archipelago. The average amount of rain there is 7,195 mm., the maximum fall, which occurred in 1903, amounting to 9,824 mm. This abundant rainfall and the constantly high temperature bring forth an extraordinarily luxuriant vegetation with which only tropical South America can vie.

The following table gives the monthly means of rainfall in different parts of the archipelago in millimetres:—

Place.	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1. Edam ...	400	347	171	100	91	76	75	64	51	45	104	214	1,738
2. Tandjong Priok ...	208	421	200	110	113	94	76	48	54	50	134	198	1,865
3. Batavia ...	322	320	225	134	103	100	76	36	70	103	141	204	1,843
4. Meester Cornelis ...	339	327	220	153	111	101	81	38	80	118	170	226	1,973
5. Pasar Minggu ...	347	295	283	160	168	110	101	57	115	165	240	255	2,341
6. Depok ...	358	322	309	310	240	192	150	155	211	270	348	286	3,157
7. Bodjonggede ...	376	337	353	360	247	179	172	210	270	342	394	313	3,508
8. Buitenzorg ...	450	410	416	417	373	273	204	229	350	423	401	360	4,375
9. Bandoeng ...	197	160	247	224	132	89	68	47	80	155	237	213	1,858
10. Tjilatjap ...	295	240	312	281	279	330	260	212	220	433	595	392	3,777
11. Sourabaya ...	300	284	293	166	110	89	51	20	13	38	114	240	1,607
12. Banjoewangi ...	224	188	148	104	97	115	76	75	58	73	83	195	1,436
13. Kajoe Enak ...	426	428	518	413	330	276	210	280	258	507	438	490	4,583
14. Madioen ...	311	272	257	222	127	74	40	27	30	60	200	242	1,868
15. Padang ...	352	254	294	363	313	330	312	301	413	517	510	492	4,511
16. Bencoolen ...	325	264	281	283	250	200	183	230	247	342	390	370	3,353
17. Labat ...	402	388	440	354	238	141	125	148	177	204	322	425	3,454
18. Palembang ...	295	264	315	283	196	120	100	110	126	218	283	346	2,974
19. Medan ...	133	96	90	120	187	130	136	193	226	260	248	234	2,050
20. Padang Pandjang ...	403	394	314	343	250	192	180	287	300	379	419	488	3,877
21. Balige ...	165	168	177	178	135	100	61	115	142	227	191	218	1,886
22. Pontianak ...	275	189	260	271	257	222	160	233	204	398	380	340	3,108
23. Bandjermasin ...	319	203	300	213	171	140	104	99	80	141	215	336	2,438
24. Poetoessibau ...	427	387	430	461	408	282	253	295	341	527	449	455	4,715
25. Mocaratewe ...	299	324	324	326	264	196	151	153	104	251	300	317	3,000
26. Macassar ...	728	552	446	144	83	87	42	10	14	39	179	640	2,994
27. Sindjai ...	130	126	151	295	465	456	327	118	52	100	93	118	2,431
28. Donggala ...	189	175	158	94	91	116	112	104	63	56	87	179	1,415
29. Gorontalo ...	111	99	101	131	105	110	90	87	45	95	97	129	1,185
30. Tomohon ...	260	270	242	221	306	177	141	108	113	282	226	241	2,590
31. Ternate ...	223	172	176	224	235	203	130	112	97	151	185	214	2,131
32. Waihai ...	301	431	316	203	145	107	103	76	81	100	100	211	2,180
33. Amahai ...	114	95	152	193	307	381	438	400	239	150	106	110	2,664
34. Amboina ...	144	116	142	275	514	608	500	307	226	173	104	146	3,435
35. Banda ...	271	180	236	332	419	385	203	105	120	110	128	251	2,758
36. Koepang ...	439	386	215	65	33	9	6	3	2	11	95	253	1,517
37. Merauke ...	253	223	215	170	91	70	27	27	68	30	100	213	1,490
38. Manokuari ...	286	259	278	258	168	194	158	148	119	83	147	213	2,311

The first station is a little isle 20 kilometres to the north of Batavia. The stations 1-8 lie on or about the same meridian, and are numbered as they proceed in a southerly direction. Buitenzorg is situated at the foot of the mountains; it is remarkable how the yearly rainfall gradually increases as the mountain ranges come nearer. Bandoeng lies on the large plateau of West Java. Tjilatjap on the rainy south coast. Sourabaya and Banjoewangi on the dry north-east and east coasts. Kajoe Enak is situated on the south-east slope of the Tengger Mountains, in East Java, 949 metres above sea-level. In consequence of the rising air currents, a considerable amount of rain falls here during the south-east monsoon. Madioen is a town in the centre of East Java. The stations 15-21 are in Sumatra. Padang, where there is heavy rain during the greater part of the year, is on the west coast. Bencoolen is on the west coast also, but more to the south; Labat is in the interior of South-East Sumatra, and Palembang is not far from the mouth of the river Moesi. Medan lies in the north (3° 35' north latitude) near the east coast. Padang Pandjang is not far from Padang on the rainy western slopes of the large mountain range. Balige lies on a plateau on the shore of the Toba Lake.

The next four stations are in Borneo. Pontianak is on the west coast, on the equator; Bandjermasin on the south coast. The other

two are inland, Poetoessi being situated on the Kapoeas River, not far from its source; and Mocaratewe on the Barito.

Of the five stations in Celebes, Macassar and Sindjai are on the south-west peninsula. Macassar on the west coast, Sindjai on the east coast. Owing to the influence of the mountain range, the west monsoon in Macassar brings heavy rains, while the east monsoon is remarkably dry. In Sindjai the west monsoon is dry. Donggala, on the west coast, at the beginning of the northern peninsula, is dry. Gorontalo, on the south coast of the peninsula, is also dry, owing to the sheltering influence of the mountain range to the north. On the plateau of the north-eastern part of the island lies Tomohon, near the lake of Tondano, 800 metres above sea-level. Ternate is a little isle in the Northern Moluccas, where rain is equally distributed over the whole year. Waihai, on the north coast of Ceram, and Amahai, on the south coast, show very distinctly the influence of the high mountain range between them, which brings rain to the one and dry weather to the other. Amboina, and even Banda, 110 kilometres to the south of Ceram, seem to be considerably influenced by the same cause. Koepang, on the Isle of Timor, has very little rain from June to October, a

result of the dry winds from the Australian deserts. Merauke is situated on the flat south coast of New Guinea. Manokoeari on the north coast.

CLIMATE OF JAVA.

Describing the climate of the lower levels of Java, Junghuhn, who for thirteen years was engaged in meteorological observations in different parts of Java and Sumatra, says: "The difference between the dry season with the good monsoon and the wet season with the bad or rainy monsoon is not so well defined, even on the coast places, as is usually thought. Different years differ in regard to the amount of their rainfall in the same way as, in Europe, they differ in the severity and mildness of their winters. The results of observations extending over many years, however, show the months December to March as the more rainy, while those from June to September are driest. In some years it happens that in January and February the weather is clear for weeks together, but when the rainy monsoon does come to full development in January, the west or north-west wind carries rain-clouds along with it, and the whole sky is frequently covered with a panoply of a dull grey colour. Water streams from the clouds often for twenty-four hours continuously, and then the splashing of rain overpowers the human voice, the brooks and rivers overflow their banks, the frogs croak day and night, and even the lizards and snakes leave their holes and creep into the houses for shelter. It is hardly possible to keep any place dry, for where the rain cannot penetrate the warm sultry air is so charged with humidity that everything quickly becomes covered with mildew. The difference of the temperature during the day and night is only a few degrees Fahrenheit. A striking contrast are the months of July and August. There is no west wind, and in the lower air the land and sea breezes prevail. The nights are calm and clear, the atmosphere becomes gradually cooler, and an abundant dew sprinkles the grass and bushes. Sometimes, when the temperature sinks below 21° C., a thick mist 1 to 2 metres high covers the earth. Much greater, however, is the humidity of the marsh and wood-covered alluvial plains of the south coast than the cultivated plains of the north coast. Not only these plains but the neighbouring plateaux also are covered, after every clear night, with white banks of mist fifteen to thirty metres high. After sunrise, the mists pour from the plateaux like a waterfall on to the plain. With the ascending sun the dew dissolves into vapour and rises to the higher strata of the air. At about ten o'clock it reappears as little white cumuli clouds swimming along in the blue sky. The sea breeze now springs up as the land is gradually heated. The tops of the cocoa palms begin to rustle, the air appears white and hazy, and the drifting clouds become more numerous and larger. The breeze gently increases, and towards one or two o'clock the blue spaces of the sky begin to grow smaller and smaller. Later in the afternoon they are completely hidden. Then brilliant lightning flashes break through, and under the rolling of thunder a refreshing rain pours down."

Near the foot of the mountain range at Buitenzorg, where the moist air ascends the wood-covered slopes of volcanoes, some 2,000 to 3,000 metres in height, thunderstorms are experienced frequently during the whole year. The tropical rain, descending in torrents amid the heaviest electrical dis-

charges, and splashing like hailstones through the dense foliage, provides a spectacle that is not easily forgotten. Quickly the roads of the Botanical Gardens are transformed into fast-running brooks, and the Tjiliwong, which in the morning flows so quietly along the dark stones of its rocky bed, becomes a roaring mountain torrent. When there has been no rain during the day the evening is sultry, and there is not the slightest breeze. But after a thunderstorm a beautiful blue sky appears, and a refreshing cool evening invites the people to the open air.

difference between the dry and wet seasons, therefore, diminishes as one proceeds farther inland or attains a higher level. The beautiful plateaux of Central Java have a very uniform climate, and rain is more equally distributed than in the northern plains, where the west monsoon develops its full force.

The amount of rainfall in the different parts of Java and the number of rainy days are accurately known from the observations taken at about seven hundred stations. The tables on page 306, give the monthly rainfall



ROYAL OBSERVATORY, BATAVIA.

Then follows a splendid sunset, with a twilight painted with the richest colours, the outlines of the palm trees assuming the most curious forms against the glowing background.

The west monsoon belongs to the lower air-strata. On the outside slopes of the mountains it seldom reaches higher than 1,600 metres and in the interior districts of Java, surrounded as they are by a high mountain range, it is hardly felt. The

and number of rainy days in each month for the period 1870-1905. They show clearly the great differences between different years. The rainy monsoon appears to be much more constant than the dry season.

The wet season, however, is not so bad as would appear from the foregoing figures, for as the greater portion of the rain falls in the afternoon and at night, the mornings are usually dry, and, owing to the cloudy sky, the temperature relatively low.

RAINFALL IN JAVA IN MILLIMETRES.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average for months May to October.	Average for months November to April.
1879...	380	324	343	215	254	292	148	219	168	168	268	281	208	290
1880...	302	320	311	257	134	212	134	68	131	219	242	333	150	302
1881...	373	310	302	251	97	166	48	7	20	22	275	307	60	285
1882...	326	321	277	204	197	192	165	54	92	225	290	203	171	262
1883...	383	306	208	183	113	21	11	39	50	133	283	285	61	318
1884...	380	334	337	288	170	46	63	39	51	96	295	298	77	332
1885...	351	407	371	207	155	9	8	13	19	61	247	347	44	336
1886...	343	419	381	282	143	101	33	71	39	254	334	404	107	315
1887...	290	306	332	223	240	150	71	43	136	126	286	383	128	329
1888...	394	297	311	299	177	56	7	43	52	61	136	339	66	290
1889...	340	386	305	232	245	287	152	64	102	211	305	258	177	254
1890...	267	275	260	156	202	201	111	84	157	229	248	274	164	278
1891...	260	360	299	230	39	68	18	9	10	30	162	250	29	290
1892...	390	326	319	294	155	93	100	120	100	257	298	247	137	285
1893...	356	374	208	225	178	158	46	98	131	124	298	334	122	318
1894...	393	334	304	248	160	68	24	33	133	203	271	333	104	300
1895...	407	288	350	150	195	163	329	76	20	118	195	360	150	342
1896...	368	382	384	357	144	17	29	13	13	49	209	376	44	307
1897...	283	407	276	292	57	27	94	28	60	183	215	296	75	257
1898...	281	306	242	200	174	124	82	44	99	253	284	383	129	300
1899...	330	401	209	196	86	176	43	80	88	150	171	399	104	314
1900...	363	346	341	264	203	242	154	174	107	124	272	304	167	301
1901...	352	338	381	160	83	239	186	46	36	119	267	347	118	310
1902...	395	414	300	140	110	67	9	27	6	44	147	279	44	282
1903...	250	394	363	258	207	92	78	26	73	251	335	360	121	303
1904...	296	330	291	206	218	171	93	94	227	277	240	367	180	329
1905...	355	418	264	332	179	87	80	41	66	90	277	237	91	313
Average rainfall for the period 1879-1905	340	351	306	235	160	134	86	61	81	151	254	318	112	301

NUMBER OF RAINY DAYS.

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Average No. each month for period May to October.	Average No. each month for period Nov. to April.
1879...	23.8	18.8	21.9	15.0	17.2	18.2	11.9	14.1	10.1	11.4	16.6	18.1	14.0	17.8
1880...	19.6	17.8	18.7	16.2	10.2	14.1	9.2	5.2	9.0	14.1	14.7	10.8	10.4	17.7
1881...	22.1	18.1	18.0	14.2	8.2	11.0	4.6	0.7	2.0	2.0	14.9	19.0	4.8	10.9
1882...	20.5	17.3	16.6	13.3	14.3	15.9	11.7	5.0	6.2	14.8	15.8	13.2	11.5	15.1
1883...	20.3	16.2	12.8	12.4	6.7	1.8	1.3	2.5	4.1	9.4	16.1	18.3	4.3	18.6
1884...	21.4	18.6	20.6	17.0	13.1	3.9	3.9	3.8	4.1	6.8	15.8	17.8	6.0	18.2
1885...	20.7	21.7	20.2	13.6	10.3	1.1	0.9	1.0	2.2	4.3	13.6	20.2	33.3	18.6
1886...	19.3	20.9	20.9	17.3	10.0	6.7	3.2	5.1	3.3	14.0	17.3	22.5	7.1	18.2
1887...	18.1	17.5	18.8	15.8	15.0	10.4	5.9	3.9	9.1	9.0	16.1	21.7	9.0	18.7
1888...	23.6	16.2	17.9	17.7	12.4	5.1	1.1	4.0	4.6	4.5	8.4	19.3	5.4	16.8
1889...	19.5	19.3	19.2	15.7	16.2	17.3	9.1	4.5	6.9	12.2	17.3	16.6	11.2	16.1
1890...	17.9	17.2	17.5	10.8	12.9	12.4	7.5	7.1	8.9	13.9	16.5	17.8	10.6	16.5
1891...	16.3	17.8	17.0	13.7	3.1	4.9	1.3	1.0	1.3	3.0	10.9	16.2	2.5	17.4
1892...	21.9	17.1	19.0	17.6	9.1	7.5	6.6	8.5	7.1	13.4	16.6	14.5	8.8	16.4
1893...	19.9	18.9	14.3	14.1	12.6	11.7	4.1	7.0	7.5	9.1	16.3	20.9	8.6	18.3
1894...	21.8	18.9	18.6	14.0	10.3	5.1	2.3	3.0	8.6	11.2	15.3	19.0	6.8	17.2
1895...	22.0	17.4	18.9	10.8	13.0	9.8	16.7	5.4	2.0	7.1	12.9	21.4	9.1	19.1
1896...	21.5	19.6	20.6	19.4	18.8	1.5	3.0	1.2	1.1	4.3	11.9	22.0	3.3	17.5
1897...	16.4	20.4	16.5	15.6	4.2	2.1	7.3	2.5	3.9	11.9	13.5	17.8	5.4	16.0
1898...	18.1	17.7	15.9	13.2	11.8	7.8	5.9	4.2	7.0	13.7	15.8	20.2	8.5	16.9
1899...	19.9	19.3	14.4	12.2	6.2	11.7	3.6	6.0	5.7	9.7	10.4	21.5	7.3	17.8
1900...	19.8	18.1	20.8	16.9	13.7	12.8	10.4	10.3	6.9	6.7	14.7	18.3	10.2	17.1
1901...	21.3	16.9	22.1	10.0	6.4	13.9	11.8	4.2	2.8	7.4	15.1	19.8	7.8	17.0
1902...	20.3	20.4	18.0	8.7	7.8	4.4	1.3	2.4	0.7	3.7	9.9	16.3	3.4	15.8
1903...	14.5	18.7	20.3	15.3	12.6	6.6	5.6	2.5	4.5	13.4	17.7	20.2	7.7	17.3
1904...	18.6	16.7	17.4	13.7	13.1	10.9	6.9	6.0	9.5	13.9	13.5	20.4	10.1	18.0
1905...	19.7	20.1	16.2	18.7	11.5	6.2	5.4	3.8	5.4	6.4	12.8	14.8	6.5	17.2
Average number of rainy days for period 1879-1905	20.0	18.4	18.3	14.6	10.8	8.7	6.0	4.6	5.3	9.3	14.5	18.8	7.5	17.3

BATAVIA.

There are very few places in the world where the climate has been so accurately gauged as in Batavia, where observations have been carried out at the Royal Magnetical and Meteorological Observatory since 1866. The climate of the towns situated on or near the coast-line of Java is very similar, so that a description of Batavia's climate will apply equally well to them all.

As in other tropical regions, the barometric changes are very slight and regular. The absolute extremes are 764.41 mm. (January 22, 1885) and 752.30 mm. (February 19, 1898). The daily oscillation is very constant, and varies between 5.56 mm. and 1.40 mm., the mean value for 1866-1905 being 2.81 mm. No cyclonic depressions occur.

The temperature is also constant. The daily oscillation is about the same as in the summer of temperate sea climates. It has its maximum at one or two o'clock in the afternoon. The amplitude varies between 5.20° C. in February and 7.68° C. in August, the mean for the period 1866 to 1905 being 6.58° C. The yearly difference of monthly means is only 1.10° C., the warmest month being October, the coldest February. The nights are coldest in August to October, and warmest in February. It is a remarkable fact, which shows how easily the human body is adapted to the constant high temperature, that often in the morning when awakening one shivers with cold and wraps

83 per cent. It is highest at six o'clock in the morning (mean 93 per cent.), then decreases rapidly till noon (69 per cent.), and afterwards increases slowly again. It is this large amount of moisture which, in connection with the high temperature, causes the great sensibility to temperature changes referred to above.

Rainfall is the least constant of meteorological elements. It oscillates between

In 1891-92 meteorological observations were made from six stations, Bandoeng, Tjinahi, Padalarang, Garoet, Tjandjoer, and Soekaboemi, respectively 714, 760, 685, 459, and 600 metres above sea-level. In the following table the principal meteorological data are combined. For purpose of comparison, the data for Batavia, obtained from observations in the same year, are added:—

	A.	B.	C.	D.	E.	F.	G.	H.	J.	K.
	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.	Per cent.	Mm.		Per cent.
Bandoeng ...	22.64	34.6	31.8	14.8	18.4	11.78	75.8	1,831	141	13.7
Padalarang...	22.23	34.4	31.0	14.4	17.9	11.26	77.2	1,687	147	12.1
Garoet ...	21.95	35.5	32.3	15.1	18.4	10.83	79.5	—	—	12.4
Tjinahi ...	23.18	33.6	29.5	18.1	20.0	7.66	81.5	1,771	164	12.0
Tjandjoer ...	23.84	32.9	30.3	18.5	20.6	8.23	79.4	2,584	183	13.5
Soekaboem...	23.31	33.9	32.1	17.1	19.6	10.58	80.1	3,186	192	19.1
Batavia ...	20.30	35.0	32.2	21.8	23.3	6.97	80.1	1,828	135	10.4

A. Mean temperature from May, 1891, to May, 1892 (Centigrade).
B. Absolute maxima.
C. Mean of monthly absolute maxima.
D. Mean of monthly absolute minima.
E. Mean of daily observations at 6 a.m.
F. Mean daily oscillation.

G. Mean relative humidity.
H. Yearly rainfall in millimetres, mean of more than five years, till 1905.
J. Number of rainy days, mean of more than five years, till 1905.
K. Mean rainfall in twenty-four hours for May, 1891, to May, 1892.

2,506.5 mm. in 1872 and 1,176.7 mm. in 1891, the number of rainy days being 213 in 1880 and 110 in 1877 and 1891. The more easterly coast places are drier, especially

Owing to the strong sunshine of these higher altitudes, the maximum temperature is about the same as in Batavia, the minimum, however, is much lower. The mean

TABLE A.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
Maximum temperature (Centigrade) ...	29.8°	29.7	30.0	30.5	29.7	29.3	29.7	29.1	30.2	31.1	31.0	31.0	31.1
Minimum temperature ...	15.3°	15.0	15.5	15.6	14.2	14.2	13.8	14.5	14.5	16.0	16.0	15.8	13.8
Mean maximum temperature ...	26.4°	26.8	27.4	27.8	26.9	26.5	26.4	26.4	27.7	27.9	27.4	27.5	27.1
Mean minimum temperature ...	17.0°	16.8	17.0	17.0	16.5	16.5	16.4	16.2	16.8	17.5	17.3	17.1	16.8
Mean temperature oscillation ...	10.0°	10.0	10.3	10.6	10.4	10.0	9.9	10.2	10.9	10.4	10.5	10.4	10.3
Mean temperature ...	21.4°	21.6	22.0	22.0	22.0	21.9	21.4	21.3	22.3	22.7	22.3	22.1	21.9
Mean relative humidity ...	84%	84%	82%	84%	81%	80%	79%	78%	77%	80%	80%	81%	81%
Minima of relative humidity ...	45%	52%	48%	52%	46%	55%	45%	41%	35%	35%	52%	29%	29%
Mean rainfall in millimetres ...	366	295	457	250	146	57	40	71	48	115	241	301	2,396
Mean number of rainy days ...	21	19	16	12	4	5	4	5	4	9	14	17	130
Minima of relative humidity at Batavia ...	47%	49%	52%	56%	51%	49%	46%	31%	38%	23%	46%	45%	—

the blanket more closely round one. With the same temperature during a summer night in Europe, one would be unable to sleep on account of the oppressive atmosphere.

The absolute temperature maximum is 35.6° C. (November 6, 1877, at one p.m.), the absolute minimum 18.9° C. (September 9, 1877, at six a.m.). The maximum daily oscillation is 13.5° C. (September 26, 1877). It may be mentioned that the year 1877 was an extraordinarily dry one. As is the case everywhere in the archipelago, the humidity is very high, and varies from 78 per cent. in September to 88 per cent. in February, the mean being

during the dry monsoon, as may be seen from the table on page 304, giving the mean monthly rainfall for Sourabaya and Banjoewangi.

PLATEAU OF WEST JAVA.

The Preanger plateau, surrounded upon nearly all sides by high volcanoes, is one of the most picturesque parts of the world. Its moderate climate renders it an excellent health resort, and its beautiful scenery and wealth of lovely vegetation combine to make it a charming residential district. Many a resident spends the autumn of his life quietly here, after retiring from his business pursuits.

temperatures show that 0.5° C. per 100 metres may be taken for the decrease of temperature with the height above sea-level. This relation approximately holds good also for greater heights. As the relative humidity is about the same as for Batavia, and temperature is three degrees lower, the absolute humidity is less, and consequently the climate much cooler than in the lowlands. The wind, however, is very feeble, its direction unstable, and its refreshing influence small, except in Garoet, where a rather strong south-west breeze is blowing from May till December.

TABLE B.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Mean temperature (Feb., 1893 Sept., 1896) (Centigrade)	17.8°	17.4	17.1	17.3	17.4	16.9	16.2	16.0	16.7	17.3	17.0	17.3	17.0
Mean maximum temperature, 1896 ...	—	—	—	—	—	—	22.0	22.7	22.3	23.1	22.2	20.8	—
Mean minimum temperature, 1897 ...	13.0°	13.6	12.9	13.1	13.6	11.8	12.3	11.5	12.7	13.3	13.3	13.7	—
Mean daily oscillation, 1896-1897 ...	—	5.9	7.3	7.1	—	—	10.1	11.2	9.7	9.8	8.0	6.2	(8.3)
Mean relative humidity (Feb., 1893 Sept., 1896) ...	78%	82%	84%	84%	81%	78%	78%	77%	74%	74%	81%	83%	80%
Cloudiness at 7 a.m. (Feb., 1893 Sept., 1896) ...	8.5	7.9	7.1	6.3	6.1	5.4	4.9	5.1	5.6	5.5	7.4	8.6	6.5
Mean rainfall in mm. (Feb., 1893 Aug., 1898) ...	312	306	222	139	80	33	78	51	9	74	148	299	1,760
Number of rainy days (Feb., 1893 Aug., 1898) ...	21	19	20	13	8	5	5	3	2	6	13	22	137
Rainfall in 24 hours in mm. (Feb., 1893 Aug., 1898) ...	10.0	10.9	7.2	4.6	2.9	1.1	2.5	1.6	0.3	2.4	4.9	9.0	5.0

TJEPOGO, NEAR BOJOLALI, SOERAKARTA.

The coffee plantation, Tjepogo, $110^{\circ} 32'$ E.L. from Greenwich, $7^{\circ} 30'$ S.L., is situated on the eastern slopes of the Merapi and Meraboe.

Here observations were made from 1880 to 1893 by Mr. J. N. Augusteys. In Table A, on page 307, some of the results are combined. The minima of the relative humidity at Batavia are given for comparison.

TOSARI AND THE YANG PLATEAU.

Tosari, the well-known health resort of East Java, is 1,777 metres above sea-level. It is situated on one of the sharp ridges that radiate from the Bromo crater. Here, from 1893 until 1897, meteorological observations were made by Dr. J. H. F. Kohlbrugge, Director of the Sanatorium. Some of the results are given in Table B, page 307.

At Batavia the maximum temperature is experienced at one or two o'clock in the afternoon, at Tosari temperature is rising very considerably during the clear morning hours and attains its maximum in the rainy

a climate is not dependent upon relative humidity alone. When a coast town of Europe has a relative humidity of 80 per cent., it is not necessarily regarded as an extraordinarily wet place, nor is there any pernicious influence from the moisture as is the case with the coast towns of Java. The lower the temperature with the same relative humidity, the stronger the evaporation on the skin and in the lungs, and the drier, as it is termed, is the climate. On hill stations this effect is strengthened still farther by the lesser density of the air. This is the principal reason why Tosari is called so dry, and, generally, will account for the stimulating effect the mountain air has upon people whose energy has been broken by the warm, damp atmosphere of the tropical plains.

TJIBODAS.

Tjibodas, the mountain garden of Buitenzorg, is 1,425 metres above sea-level. Its exact geographical position is $107^{\circ} 6'$ E.L. and $6^{\circ} 44'$ S.L. To the S.W., W. and N.W. at a distance of 10 kilometres arise the summits of Gedeh, the Pangerango, and the Gagar

CELEBES.

THE PLATEAU OF TONDANO.—The Plateau of Tondano is situated in the centre of the Minahassa, the north-eastern part of the most northerly peninsula of Celebes. It is surrounded by volcanoes of 1,000–2,000 metres in height and smaller mountain ranges, the Lake of Tondano, 12 kilometres long and 2–5 kilometres wide, which covers the lower levels of the plateau, adding to the beauty of this rich mountain land. At Tomohon, 770 metres above sea-level, at nearly equal distances from the northern and southern coasts, observations were made with great care in 1895 by Mr. A. Limburg, director of the School for Daughters of Native Chiefs, and have been continued ever since. The hours of observations are six a.m., twelve noon, and six p.m. The most characteristic features of Tomohon are the density of the clouds and the low temperature. The monthly mean of temperature is practically the same during the whole year, and is small. The character of the climate may, however, be judged in more detail from the appended figures:—

1895–1897.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
Monthly means of temperature (Centigrade)	...	20.8°	20.7	20.9	21.1	21.6	21.4	21.1	21.2	21.2	21.3	21.1	21.1
Mean daily maximum	...	24.6°	24.6	25.4	26.1	26.4	26.2	25.9	26.4	26.8	26.6	26.1	25.8
Mean daily minimum	...	18.4°	18.3	18.2	17.9	18.4	18.3	18.1	18.0	17.4	17.6	17.8	18.1
Mean daily oscillation	...	6.2°	6.3	7.2	8.2	8.0	7.8	7.8	8.4	9.3	9.1	8.3	7.8
Rainfall in millimetres	...	27.4	27.5	23.4	21.8	28.4	18.6	15.0	10.8	14.7	23.3	25.3	24.3
Number of rainy days	...	24	22	21	19	20	17	13	10	12	18	19	22
Mean maximum rainfall in 24 hours in mm.	...	58	53	53	41	58	41	43	38	44	44	54	49
Mean cloudiness	...	81%	81%	76%	67%	66%	67%	60%	50%	60%	64%	60%	60%

monsoon at ten o'clock, in the dry season at twelve. The clouds prevent large temperature oscillations and give Tosari a mild climate. Moreover, being situated on the mountain slope, the ascending air currents give it warm and dry nights.

On the Yang Plateau, 2,218 metres above

Benteng Mountains, 2,030 metres, 3,029 metres, and 2,033 metres high respectively. To the south and east the ground slopes strongly. Here, from January, 1887, till June, 1889, observations were made by the gardener, Mr. Liefeld. Some of the results are given herewith:—

The absolute maximum of temperature is 31.1° C., the absolute minimum 12.2° . The mean daily oscillation is but a little greater than in Batavia (6.58°), and smaller than at the Preanger stations (mean 10.06°). There is more rain than at Batavia, and the showers are lighter and more frequent, being

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL.
Maximum temperature, 1889 (Centigrade)	...	24.1°	25.0	25.0	25.6	25.1	24.8	—	—	—	—	—	—
Minimum temperature, 1889	...	13.0°	15.0	14.0	15.2	15.0	15.3	—	—	—	—	—	—
Mean maximum temperature, 1887	...	23.1°	21.8	22.9	22.7	22.3	22.4	22.8	23.0	23.2	24.7	22.3	22.8
Mean minimum temperature, 1887	...	13.2°	14.5	13.5	13.9	13.7	12.4	11.2	11.9	12.7	12.4	13.8	13.1
Mean temperature oscillation, 1887	...	10.0°	7.3	9.5	8.8	8.5	10.0	11.5	11.0	10.5	12.4	8.5	9.8
Mean temperature 1887 89	...	17.8	18.0	18.0	18.4	18.2	18.0	16.3	17.2	17.4	18.1	18.0	17.7
Mean relative humidity 1887 89	...	95%	94%	94%	94%	94%	92%	91%	89%	92%	86%	90%	92%
Minimum relative humidity, 1889	...	76%	71%	74%	70%	67%	72%	—	—	—	—	—	—
Mean rainfall, 1887 89 in millimetres	...	414	357	361	311	258	175	62	209	151	176	523	485
													3,542

sea-level, situated to the east of the Bromo Mountains, the mean temperature was found by Dr. Kohlbrugge to be 14° C., that is relatively cooler than Tosari. There, by the sheltering influence of the surrounding mountains, the effect of the rising and descending air currents is much less than on the slopes, and the oscillations of temperature and humidity somewhat greater. The mean value of the relative humidity is the same as for the other stations in Java, namely 80 per cent.

The plateau of Tondano, for which statistics are given hereafter, has a relatively low temperature.

Regarding the influence of climate upon health it may be added that the humidity of

The minima of relative humidity for Batavia from January to June, 1889 were 56, 58, 61, 62, 57, and 56 per cent.

Tjibodas seems to be in the densest part of the cloud region. The cloudiness and relative humidity are extraordinarily high, and consequently temperature changes are only small and temperature low. From wind observations taken at six a.m., twelve noon, and six p.m., it appears, moreover, that mountain winds are practically absent. Tjibodas is about the highest point reached by the west monsoon. In 1888 and 1889 the wind was blowing during the whole year from a south-easterly direction. In 1887, when the west monsoon was of more than usual strength, a north-west wind prevailed.

distributed equally over the year. The number of rainy days, therefore, is very considerable, even in the dry season. The climate generally may be described as mild, constant, and healthy, and is in favourable contrast to the neighbouring warm coast places.

CONCLUSION.

For the other parts of the archipelago no detailed observations are available; only the fragmentary notes and conclusions drawn from short private experiments. Moreover, the value of these data is often greatly diminished by the uncertainty as to whether the instruments used were correct, and it would be of little value to discuss them here.



A RIVER SCENE.

FORESTS AND FLORA OF JAVA.

BY DR. TH. VALETON (of the Department of Agriculture), Chief of the Government Herbarium, Buitenzorg.



HERE can be no doubt whatever that Java was once, in prehistoric times, covered from the shore to the highest mountain summits with woods. Originally, in all probability, the grassy areas merely represented certain special barren stretches of soil unsuited for wooded growths. It may also be taken as a certainty that if at the present time the island were to be abandoned by its inhabitants and Nature once more left to work its own sweet will, the whole of the areas now under cultivation would sooner or later be once more covered with forest. That this is so is proved among other things by what occurred in historic times on the east of the island. When, in 1507, Cornelis Houtman, the well-known Dutch explorer, lay with his ships in front of the town of Balambangan (a place now looked for in vain on the map of Java), situate to the south of Banjowangi, at the furthestmost eastern corner of the island, that town was the capital of a prosperous Hindu kingdom, and a hundred years later the historian Valentin still speaks of the princely magnificence there prevailing and of the dense population of the capital itself and the numerous surrounding villages.

Wars, famine and sickness depopulated the region, and the place of rice fields, fruit trees and palms was taken by lofty primitive forests which still covered the whole of East Java some fifty years ago; then all that indicated the ancient civilisation was the discovery here and there in the midst of the luxuriant forest of ruins of temples and palaces.

The rapidity with which the primeval forest may thus reconquer a region abandoned by cultivation may be made clear by the following example.

On the richly wooded island of Nusakembangan, on the south coast of Java, there stood, some fifty years ago, the fort of Banteng-mati on open and partly cultivated land. In 1863, this fort was abandoned for strategic reasons, the population being at the same time prohibited from settling there.

Thirty years later, the whole of the land round the fort up to the walls was covered

like the rest of the island with a lofty forest growth, the trees standing up to a height of 75 feet, and no one visiting the island without being acquainted with the history of its deforestation would have doubted that he was here treading a virgin forest countless centuries old.

It would probably not be difficult to collect further examples of this kind. With respect to the rapidity with which some species of trees can grow in the tropics, I wish to give here two classical examples which are, it is true, not related of the Javanese primeval forest, but which, nevertheless, give an idea of what is possible in this respect.

The first example is the *Eucalyptus alba*, a tree originating from the Island of Timor, one specimen of which (seed) was planted in 1874 at the Willem III. Gymnasium in Batavia and in 1877 had attained the height of more than 45 feet.

The second example is the *Albizia moluccana*, a species brought from the Moluccas, which is used to give shade to coffee plantations. In the first year after being sown, it reaches a height of from 15 to 18 feet, within six years a height of 75 feet and a thickness of 10 inches, within nine years a height of 100 feet and then equals a 160-year-old beech in length, finally reaching its greatest height, about 132 feet, in seventeen years. These figures, which are based on perfectly reliable measurements, are even more impressive when it is remembered that one of the European trees of fastest growth, the larch, in nine years attains a height of 12 to 13 feet, and in seventeen years is only 30 feet high.

The forest which still covers those parts of Java and the other islands span a by cultivation is not of the same kind everywhere, but shows differences which are partly due to internal causes and partly to the climate and the soil. As regards the nature of the soil, the latter is of little importance in Java, at least on superficial examination. The forest, with the same luxuriance and without any material alteration in its character, will cover tertiary and alluvial soils or ground rich in limestone and gravel. Only marshy ground forms an exception, and this is rare in the interior of Java.

The differences in climate here referred to are the lesser or greater rainfall and the varying temperature. Only those regions having no considerable dry period, and where the average yearly rainfall exceeds two metres and the moisture of the air is considerable throughout the year, are the places of growth of the genuine tropical evergreen forest, the so called "tropical rain forest." Therefore, this forest in Java covers the entire western part down to about Wilis Mountains at 112° western longitude, and is encountered in East Java only on moist mountain slopes protected against the south-east wind.

In East Java, where the dry south-east wind prevails during a considerable portion of the year, and where the year is sharply divided by this means into a dry and rainy season, the forest is of a somewhat distinct type, and in many of its features approximates to the Australian forests. It contains many periodic leafless species, and is usually described by the name of the monsoon forest.

As regards the temperature, it is, of course, only modified by the height above the sea, and, therefore, only has any influence in the mountain regions. The changes undergone by the forest in proportion as it rises to the higher altitudes allow of dividing it roughly into three stages, the first of which extends up to 2,000 feet, the second to 4,500 feet, and the third to 7,500 feet altitude.

In the higher of these stages the average temperature falls; this temperature in the lowest stage is from 27° to 24° C., in the second stage from 24° to 18° C., and in the third stage from 18° to 13° C., and this change of climate immediately influences the nature of the forest, which in these higher regions shows a considerable approximation in its composition to that of the warm temperate zone, without, however, losing its tropical character in its general features.

Above 7,500 feet the forest proper gradually ceases, and passes little by little into the tropical alpine flora clothing the mountain tops. In the plains it continues to the seashore, undergoing alteration in its constituent species, and being distinguished in the vicinity of the coast as beach, jungle, or

Barringtonia formation. Wherever the sea-shore is low and marshy, as is the case almost along the whole of Northern Java and at the river mouths in South Java, mangrove and tidal forests form.

The forest that once covered Java, on a rough valuation (exact data are not in existence), now occupies between two and three million "bouws" * (apart from the teak wood which consists of nine to ten million "bouws"), i.e. at most 18.5 per cent. of the total area of Java (including Madura and Nusakambangan), but it is still rapidly diminishing, partly owing to the increasing extension of private undertakings and partly by lawful and clandestine felling by the population. Only a portion of the forest covering the mountain tops, partly above 2,000 feet and partly above 3,500 to 4,500 feet is reserved by the Forestry Department in view of climatic interests. In the plains,

We have to deal briefly, therefore, with the following physiognomic formations:—

1. The rain forest.
2. The monsoon forest.
3. The alpine flora.
4. The seashore or beach flora.
5. The marshy flora.
6. The savannah.
7. The flora of forest cultivations.

1. **THE RAIN FOREST.**—The point about the tropical rain forest which first attracts attention in contrast to the European forest is the extraordinary diversity of forms. When we learn that on the Island of Java, which is about as big as England, 1,500 different species of trees more than 15 feet high are found, whilst the total number of plant species probably does not exceed 6,000, one no longer feels any astonishment at seldom meeting a number of individuals of the same species in immediate proximity to each other.

As regards the height of the forest trees, it may be said not to exceed an average of 100 feet, and descends below this by all possible grades to 15 feet. A number of tree species, however, rise far higher, many of them to 120 and some 160 to 180 feet. These forest giants occur sometimes scattered here and there, and sometimes their number is so large that their summits seem to form a forest above the forest.

In keeping with their mighty length are also their gigantic trunks, which only shoot out branches from a great height, i.e., at 60 to 90 feet. Furthermore, the branch growth is far less than in most European trees, and a peculiar feature is that in a very large number of species the leaves are gathered in a mass at the top of the twigs, which are otherwise bare. A phenomenon peculiar to many forest trees is the plank-shaped roots radiating out about the trunk,



THE JUNGLE NEAR BUITENZORG.

however, the forest is regarded as possessing but little importance from the point of view of climate.

The disappearing forest partly gives place to various forms of cultivation, and is partly merely devastated. With the forest, then, the mould and the regular water supply disappear simultaneously, and the forest is replaced by the savannah. Even where the wood is replaced by cultivation the formation of savannahs is often the final result, as it has not been found in any farm cultivation carried on upon high ground that there is or could be any permanent or proper care for the maintenance of the productive powers of the soil.

* 1 bouw = 1.75 acres.

There are certain species of trees which predominate in the forests on certain soils, such as the rasamala, the poespa, and the kipoetri, and give a certain typical character to the forest, but they are still mingled with hundreds of other species. This heterogeneous character is already observable if the forest is examined from without, for instance, from the sea or from an open space. Strongly undulating and intersecting profile lines are then seen, and the colour of the foliage diverges into all imaginable tints of green, mingled with violet, brown and yellow. In the thick mass of green, trunks are only occasionally visible here and there, as the whole of the available space between the trees is taken up by brushwood, lianas, and epiphytic growths.

the so-called plank roots, whilst others, without forming these planks, spread a network of gigantic roots over the ground. The plank-shaped roots are often so large that the Javanese cut out round pieces of a diameter of 5 to 10 feet, which they then use as wheels for their carts. In keeping with the uniform climate, the trees have no yearly period when they lose their leaves, the loss of leaf taking place either gradually according as the young leaf develops or at irregular periods, but it rarely happens that the trees are entirely bare of leaves. A ruddy tint in autumn but seldom occurs, though it is shown by the katapang and ganitri trees, the latter being almost always recognisable by the dark red falling leaves, which are seen intermingled with the remaining fresh green

foliage. Beautiful combinations of colours of white, rose, violet, and brown, on the other hand, occur during the development of the leaves. Many shrubs and small trees of the leguminous family, moreover, show a phenomenon unknown to the temperate zone. It is the very rapid development of a mass of young foliage which first hangs quite inert as though dead, standing out clearly against the dark green older foliage owing to its snow-white colour or brown and white spots. It only assumes the green colour a few weeks later, and at the same time takes up its normal position.

Among the properties which generally characterise the foliage of rain forests, the shape of the leaf must further be mentioned. Among the innumerable different forms which occur, the leaves are, nevertheless, in most cases elliptical and whole-edged, with a leather-like, dark green gloss (laurel-leaf form), and in by far the majority of the trees in the rain forest the leaves terminate in a short or long narrow point, the rainwater dripping off rapidly, and the more rapidly in proportion as the leaves have at the same time a smooth or varnished surface. This phenomenon is very striking when compared with the form of leaf in the strand forests, where certainly 90 per cent. of the tree species possess more or less inverted egg-shaped leaves with a rounded or serrated top.

Of the hundreds of species of trees of which these evergreen forests are made up, I will mention some of the most typical. The prince of the West Java forests is unquestionably the *rasamala* (*Altingia excelsa*) whose pillar-like trunk, straight as an arrow, throws out branches at a height of 90 to 100 feet, and attains a height of 140 to 180 feet, whilst its diameter at 5 to 6 feet high may amount to

geographical dissemination of the *rasamala* in Java is very limited; in Central and East Java it is unknown, and its most easterly station is the slope of the Malabar mountain near

other species of trees are found scattered in them. A second species which characterises a definite type of forest by its large number of individuals is the *poespa* (*Schinus noronhai*).



WATER PLANTS.

Bandoeng. Vertically it has likewise but a limited distribution, as it does not occur lower than 2,000 feet and seldom higher than

This likewise is limited to West Java, and mostly to a height of 4,000 to 5,000 feet, but is more widely found at a lower sea altitude than the *rasamala*. The greatest height of the *poespa* is about 130 feet, but in thickness it sometimes surpasses the *rasamala*. For the most part the trunk is undivided up to a great height, but not always. The bark is dark brown and full of crevices. By its light pink young foliage during one part of the year, and the thick masses of white flowers at its top during another part of the year, the *poespa* is readily recognisable, and contributes greatly to the beauty of the mountain forest.

Among the very peculiar forest trees the different species of figs should not go unmentioned. These occur in the greatest number of species in the lower reaches of forest, but many of them accompany the *rasamala* up to 4,000 feet. (In all there are 87 species known in Java, which, however, partly belong to the climbing plants or small shrubs.) One of the giants amongst these is the *Ficus elastica*, which grows wild in only a few places in Java, but is so much the more known generally as a cultivated tree producing rubber. In contrast to the other forest trees characterised by their pillar-like trunks, the trunk of the fig-tree is mostly not high, but it nevertheless exceeds all other trees in its enormous thickness and the wide canopy of its tints and shady dark green glistening leaf. The thickness of the trunk increases not only by its own growth but far more rapidly by means of the numerous air roots which drop down some distance both from the branches and along the trunk. The rubber tree, like many kindred species, is an epiphyte in its youth. The seeds germinate on the branches of other forest trees and immediately produce air roots, which descend along the trunk and often coil round the latter. In proportion as the trunk of the fig-tree increases in size and thickness, and its crown of leaves spreads out, the number of air roots increases in size and thickness. Not infrequently the supporting



PALMS, BOTANICAL GARDENS, BUITENZORG.

34 feet. The bark is smooth and light grey in colour, and in contrast to other forest trees is mostly entirely free from epiphytes, whilst the comparatively small top is often thickly hung with long greybeard mosses. The

5,000 feet. Outside Java it is also found in Burma, Malacca and Sumatra.

In some forests the number of specimens is so great that one could speak of them as *rasamala* forests, but nevertheless 100 to 150

tree gives way and sinks, and the gigantic fig trunk is borne freely upon its numerous trunk-shaped air roots only. This is always the case when the fig becomes a parasite on

any general occurrence. As their length is never more than 25 feet, they belong to the elements of the underwood. More widely distributed, and sometimes assembled in large

highlands of the Malabar mountains, the *Orciostachys elegantissima*, the stems of which have at the foot a thickness of 14 inches, but which rise to 60 feet in height, climbing up snake-wise against the forest trees, from the tops of which their thin, elegantly leaved stalks hang down. Hitherto no species closely related to this most singular plant has been found outside Java.

As indispensable accessory elements of the rain forest, the lianas must be mentioned, which are so eloquently described by Wallace in his excellent work, "Tropical Nature." These are living strands of a length which baffles the eye and is almost immeasurable, changing from thin cord to a man's thigh in thickness, now dangling in threads of endless length from the tops of the trees, then again forming the most fantastic festoons, not infrequently falling in broken branches to the ground and taking root afresh, sending up new climbing shoots.

The lianas belong to numerous very different plant families; by far the most, and most interesting forms, belong to the families of the palms, the *Vitaceae* (vine-worts), the *Leguminosae* (leguminous plants), whilst numerous other families, such as the *Piperaceae* (pepperworts), *Passifloraceae* (passionworts), *Cucurbitaceae* (cucurbits), *Asclepiadaceae* (asclepiads), and many other smaller plants, are more striking by their flowers or fruits than by their dimensions, or like the *Menispermads* form climbing plants which do not attract the eye.

Among the most remarkable forms I would mention the palm-like lianas or the rattans, styled by Junghuhn, not ineptly, the queen of the lianas. Their slender, round leafless stems, sometimes armed with huge thorns and many hundreds of feet in length, at times creeping over the ground and then again high in the air tying the tree trunks to each other, form the most formidable obstacle to passage through the primeval wood. On open spots in the forest or above the tops



GIANT BAMBOOS, BOTANICAL GARDENS, BUITENZORG.

similar tree species. The seeds of some species, however, germinate in the tops of the highest forest trees, and whilst they send their supporting roots down towards the earth, their leafy stem rises upon the summit of the tree on which they rest. Not infrequently, in this way we see *rasamala* trees bearing a double leafy crown.

Whilst passing over hundreds of other forest trees in silence, I wish to touch briefly upon a few interesting types which do not attain their greatest development in the tropical forest proper, but in the higher mountainous regions of 4,500 to 6,000 feet, where the temperature averages 13 to 18° C., and is thus to some extent alike with that of the temperate zone. These are the oaks (species of *Quercus*), the podocarpus species, the representatives in Java of the very important fir trees and the numerous species of laurels of the temperate zone. Mention must also be made of some species of *Castanea* and *Engelhardtia spicata*, allied to the walnut. Both the oaks and the chestnuts, just as in Europe, are immediately recognisable by the fallen fruits, although the oak fruits show great richness of form, both in dimensions and shapes. The podocarpus species have their level trunks and pyramidal summits in common with the European fir trees, but they belong, just like the *Taxus* (yew tree), to the group of *Taxaceae* (taxads), and therefore have berry fruits instead of fir cones. The laurels are represented by numerous kinds and species, easily recognisable by the greyish green foliage with the peculiar three-ribbed leaves and often by their aromatic odour (the cinnamon tree and camphor tree).

A subordinate part is played in the rain forest of Java by the palms, of which only a few species, such as the *Pinanga Kuhlthii*, with its beautiful bunches of red berries, are of

numbers on the slopes of ravines, are the tree ferns, of which about eight species occur in heights ranging between ten to twenty-five feet.

In the lower stretches of the rain forest,



FINE SPECIMEN OF THE "FICUS RETUSA," NEAR GOVERNMENT HOUSE, BUITENZORG.

there also occur various species of bamboo, some of which are genuine climbing plants. Java is remarkable for one species, which is encountered exclusively on one spot in the

of the trees they spread on high their palm-like summits, with their light gleaming and feathery foliage. The tops of the leaf stalks are in most species prolonged into

long thin threads, carrying large inwardly curved thorns in long rows. These are catch hooks, by means of which the plants seek new points of support to which to fasten themselves.

In the number of individuals and in hugeness of dimensions the vine-works are not inferior to the rattans. The most gigantic of them, the *Vitis papillosa*, rises to 100 feet with a thickness of 6 to 7 inches, and then dangles its long, herb-like leafy young stalks through the tops of the trees. These are provided with tendrils in place of the catch hooks of the rattans and serving the same purpose. The stems are so tough and so firmly attached that two or three men together cannot pull them away, but the wood is so soft that the very thickest can be cut through at a single blow of the chopping knife. They form remarkable water reservoirs, and the Javanese are in the habit of cutting out pieces at the height of five or six feet from the ground in order to slake their thirst, and drink the sweetish sap which flows out in big drops or jets. The stem of some species of *Vitis* is very striking to the eye, owing to its ribbon-like form, and is often no thicker than a couple of millimetres, whilst having a width of three to four inches.

Whilst the lianas make use of the tree trunks for their support in order to procure their share of daylight by climbing, the epiphytes have known how to conquer for themselves a fixed home on the trunks and branches. Only a few species of trees, such as the *rasamala*, refuse them hospitality; by far the majority of trees are covered from foot to top with epiphytes along the trunk and the branches. These are in the first place the mosses and tuft mosses, which indeed cover the trunks of trees even in the temperate zone, though in much smaller dimensions and lesser number of species. After this come Lycopodiums (club mosses) of unusual dimensions, and hundreds of different kinds of ferns, among them very beautiful and striking forms, such as the gigantic bird's-nest ferns, which, resembling enormous crows' nests, in the higher mountain forest stretches often live free against tree in a large number and give a very characteristic appearance to the wood. Their large leaves, set close against each other in rosettes, form closed funnels in their lower part in which rainwater and humus gather, and in which the roots of the plant develop in great numbers. The latter grow here not downwards, as in the case of earth plants, but upwards and sideways, which is quite in keeping with their function; the water they are to suck up here comes from above. Among the plants of higher rank (phanerogams), most epiphytes are supplied by the *Orchidæ*, of which at least 2,500 kinds occur in the tropical zone, mostly epiphytes. Their richness of form is inexhaustible. Some species attain considerable dimensions, the *Grammatophyllum speciosum* putting out thick-leaved twigs 10 feet in length, with bunches of blossoms 6 feet long, green, yellow and brown spotted; species of *Vanda* with masses of blossoms several feet in length, the magnificent large flowers of the *Phalacnopsis amabilis*, *Aerides*, *Arachnantes*, *Dendrobium*, &c. By far the majority, however, are small plants which in no way strike the eye. Some kinds are no bigger than small moss plants.

In Java there are now some six hundred *Oronidæ* known, the greater majority of which are epiphytic. A genuine tropical epiphytic family is likewise that of the *Aracæ* (Arads). Of the 900 species of this family 800 live in the tropics, and more than 100 in the Malay Archipelago. In the Javanese

forests, the species *Polthos* is above all represented everywhere. Their fleshy green stems, divided into articulate sections, climb along the tree trunks, against which they are firmly pressed, upwards, and produce, at a fairly large distance from each other, the big, long-stemmed, often heart-shaped or triangular, fresh green leaves, and whilst they cling firmly through part of their roots to the stems, they mostly at the same time send out from their branches long aerial roots which descend towards the ground and fasten themselves in the earth. On the tops of the wide-spreading branches they produce spadix-shaped blossoms, consisting of very primitive flowers densely massed together and surrounded by a large white sheath-like leaf.

Less generally distributed, but none the less worthy of mention as characteristic plants of the primeval forests, are the *Freyincinias* or climbing *Pandanaceæ* (screw pines). These likewise climb along tree trunks upwards, but in contrast to the *Arads*

their dark green glossy leaf and small bell-shaped flowers, which are exactly like those of the cranberries on our heaths. I pass over numerous other families which only contribute slightly to the epiphytic flora.

While in the upper part of the forest all available space is taken up in this way by climbing plants and epiphytes, the soil between the trees is not left unoccupied. As a matter of fact one hardly anywhere gets to see the actual soil of the forest, and so dense is the mass of undergrowth that every attempt to venture into the forest without the assistance of a number of experienced natives to cut a path through with choppers would be fruitless.

Among the undergrowth, which varies from half a foot to ten feet in height, and among which, are the chief representatives of the families of the *Rubiaceæ*, *Gesneriaceæ*, *Acanthaceæ*, *Magnoliaceæ*, *Ternstroemiaceæ*, *Euphorbiaceæ*, the flowers are for the most part not very striking; much more striking are often the berries—of a beautiful steel



FERNERY, BOTANICAL GARDENS, BUITENZORG.

are quite thickly covered with narrow, oblong sessile leaves set out in three rows, which carry a ridge of thorns on their back. Their large branching flower spadices, surrounded by numerous protecting violet-coloured leaves, make them an ornament of the forest. The plants mentioned belong to the division of monocotyledonous phanerogams. Likewise, among the dicotyledonous phanerogams there are many which have quite unusually attached themselves to the summits of the trees. The most beautiful of all is the *Rhododendron javanicum*, with its great violet and orange-coloured flowers, the thick bunches of which draw attention even when they nestle high in the tree. No less striking are the numerous sorts of the family of Melastomads, the leaves of which, with their remarkable network of ribs and their often dark red-coloured flower stalks, with red flowers and blue fruits, stand out sharply against the green leafage. Very common, but less striking, are the *Vaccinææ* (cranberries), with

blue and more rarely of a white or red colour.

There are not wanting, however, very beautiful flowers, such as the pink and white blossoms of *Melastoma*, the *Adidas*, the *Impatiens* species (Balsamine), the numerous white flowers of various *Sauriya* species, the glittering white and orange screens of the *Ixora* and *Pavetta*, whilst individual shrubs, such as the *Strobilanthes* species, impart a certain typical character to parts of the wood, above all in the higher mountain stretches above 4,000 feet, owing to their large number of individuals. Numerous orchidaceous also occur among the earth plants; some of them, such as the *Pharus* attaining to man's height with its big blossoms, the *Calanthe* and the *Spathoglottis* are most conspicuous.

The most important herbaceous plant of the entire undergrowth from the surface to the top of the mountains, consists of the *Scitamineæ* (gingerworts). These are red herbs, as their green stalks, one to two inches thick, can be easily cut through with a pocket

knife, but they attain a length of ten to eighteen feet. They are often massed together in close groups covering great extents in the forest along open spaces, "a wood within a wood," and although their blossoms are of very divergent forms, they have a uniform foliage. These are dark green, broad oblong leaves, rising from the ground upwards in two rows along the elegantly curved stems and producing the impression of gigantic leaves which have been artificially put together. The blossoms, which attract the eye by their great dimensions and brilliant colours, frequently appear without stalks, rising out of the ground like toadstools, often at some distance from the leaf. The most beautiful of all, and one of the most beautiful plants of the mountain forest, is the *Alpinia malaccensis*, the stalks of which bear at the top, masses of large orange-coloured flowers, standing vertically erect and more than a foot in length.

The tropical forest is comparatively not so rich in toadstools as the temperate zone,

white, and when they open a beautiful dark-brown, with lighter spots, and in the centre a light yellow. When they bloom they give off a loathsome carrion stench. Two species are known in Java, on the plain and on the lower mountain regions of the south coast. A great part of them have a diameter of one to two feet when fully open. In the higher mountain region live the *Brugmansias* on other species of *vitis*; they have much smaller, extremely beautiful white blossoms, which are, nevertheless, of considerable size.

More generally disseminated in all higher forests are the interesting *Balanophoras*, plants which differ so greatly from all higher species, to which, however, they belong upon the evidence of their texture and flowers, that their place in the natural system is still a puzzle to the botanist. The leaves and stalks are entirely wanting in these plants. The elegant white and red flower stalks, somewhat resembling fir cones, rise up out of reddish brown tubercles beneath the

easterly portion of the archipelago and partly in Australia. In this part of Java alone occur those forests which lose their leaves, of which the djati forest (teak forest) is by far the most important.

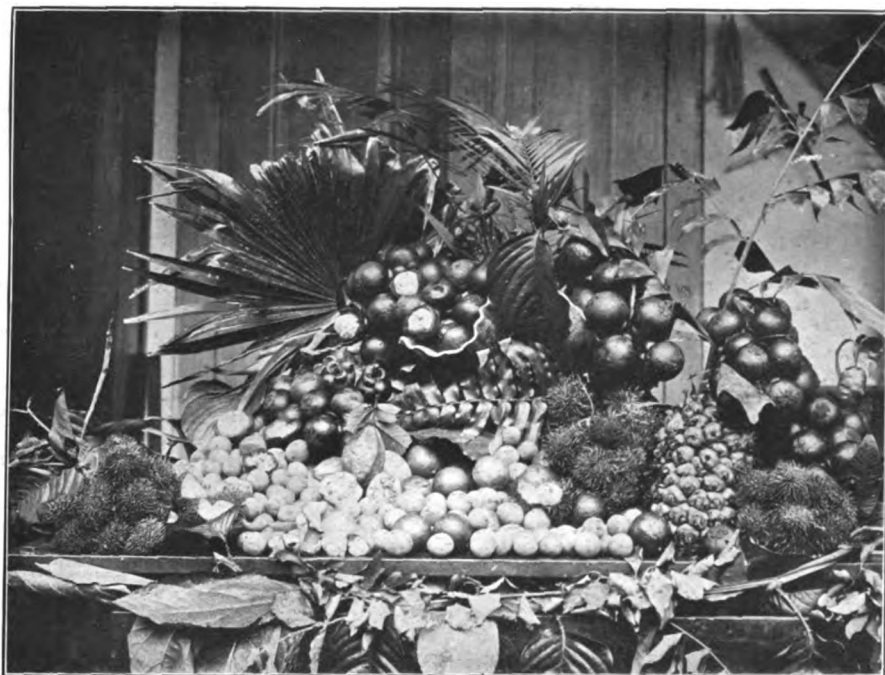
The teak forest, partly in its original condition and partly cultivated, covers about 0.9 million bouws (1 bouw=0.7 hectares=1.75 acre), i.e. nearly 5 per cent. of the area of Java.

These forests grow mostly on hard clayey, stoney, or sandy soil, where they have little to fear from the struggle with other species of trees. They are deciduous in July, and then remain leafless during the dry period. They begin to put out their young leaves in November or December, and from January to March are covered with fresh leaves, and, at the same time, flowers. They do not attain any great height, being mostly between 50 ft. to 80 ft. They have curved and bending stems and a light grey bark. The maximum growth which they at times reach is 120 ft., with a diameter of 3.5 ft. At those points where they occur naturally, they are accompanied by only a few other species, but during the flowering period the ground in the teak forests is covered with a wealth of flowering shrubs and herbs, among which, just as in the rain forests, the ginger worts play a considerable part. Lianas do not occur in very large number, whilst epiphytes, which, by their structure and mode of life, are tied to the vapour-saturated zones, are wanting in the very nature of things. Tree-strangling species of *Ficus* are, however, not infrequent.

Among the tree species which are in frequent attendance upon the teak forests, a certain number of *Albizia* species are included. It is by no means rare for these themselves to form almost homogeneous woods of great extent, creating a very characteristic impression by their white birch-like bark and the fine feathery foliage, which form a horizontally-extended umbrella-shaped crown. In addition to the teak and *Albizia* woods no homogeneous forests are found in the low plain in Java. The bamboo, however, also appears in Eastern Java in forest form, covering great areas and reaching fairly considerable heights (up to 100 feet). The mountainous region of Eastern Java is also covered with homogeneous forests in many parts, which form a sharp contrast with the temperate rain forests of the west. These are the *tjemoro* and *anggring* forests. The *tjemoro* forests, which consist of *Casuarina montana* clothe most of the mountain slopes between 5,600 feet and 8,000 feet, here and there mingled with, or alternating with, oak.

These are trees thirty to ninety feet high, the summit of which, first pyramidal and afterwards spreading wide in many branches, is formed of a fine needle-shaped leaf, so that they show a great resemblance to fir trees. Their bark is creviced, but carries hardly any epiphytes, nor even mosses and ferns, only beard mosses hang down out of the branches. The soil is covered with short grass, and often with fallen needles, and only a small quantity of bushes and small trees, among which are various herbaceous forms already belonging to the alpine flora, which form the undergrowth.

Another forest species here and there forms homogeneous woods in the mountainous parts of East Java. This is the *Parasponia parviflora*, a low tree attaining 50 feet maximum, with a more or less dome-like summit belonging to the family of the *Ulmaceae* (elm worts). It does not occur so high in the uplands as does the *tjemoro*,



SELECTION OF FRUIT GROWN IN NETHERLANDS INDIA.

but saprophytic and parasitic plants of a higher order belong to the most noteworthy growths of the forests.

Well known everywhere is the giant flower *rafflesia*, known among the Javanese as the *patma*, the name by which the Hindus denote their holy lotus, with which they decorate all images of Buddha, and, indeed, one is often in doubt when confronted with Javanese sculptural works as to whether they are intended to represent a lotus or a *rafflesia*.

These *rafflesia*s live as parasites upon the old trunks of the above-mentioned *vitis* lianas, where the latter creep with many serpentine twists along the ground at the foot of their supporting trees. The whole of the *rafflesia* apparently consists of nothing more than one single large blossom which develops in the heart of the *vitis* stem, and begins to protrude in the shape of a small round bud; in reality, however, there is also a vegetable tissue present, but of very small dimensions and nestled closely in the heart of the *vitis* plant. The flowers are at first

ground. The latter surround the root tops of various species of trees, and are so merged in and interwoven with the latter that it is difficult to say where the parasite ends and the feeder plant begins. Earlier botanists, therefore, regarded this plant as an abnormal outgrowth of the roots themselves, and even lately a French scientist of note published a treatise on the anatomical structure of the *Balanophoras*, in which he describes the roots of the feeder plant as parts of the texture of the parasite!

II. MONSOON FOREST. — In East Java, where the south-east trade wind makes its influence much more strongly felt than in West Java, and where from five to seven months—May to October, or, sometimes, the beginning of December—a rainless period prevails, heterogeneous evergreen forests still occur, but they are, nevertheless, wanting in some of the typical tree forms of the West Java rain forest, such as the *rasamala* and the *poespa*, and comprise numerous species occurring more exclusively in the

but on some mountain slopes at a height of 3,000 feet to 5,000 feet, forms very dense woods to the exclusion of other species.

III. ALPINE FLORA.—In proportion as the forest rises higher in the mountains and the temperature becomes lower and the pressure and absolute moisture of the air grow less, the trees diminish in size and number. The *Casuarina* forests here and there still climb up to a height of 9,000 feet, but the trees get smaller and more bent. In the rain forest, the oaks and *Lauraceae* break off at 7,000 feet to 8,000 feet, and give place to other species of small size.

The tops of the mountains, the highest of which in Java, the Seméroe, has a height of about 11,600 feet, possess a very peculiar flora, which in many respects agrees with the alpine flora of the temperate regions,

which may rise to 45 feet. A species of this same genus is the well-known gale of European swamps. The most widely extended tree of the alpine flora, however, is the *Vaccinium ellipticum*, which, with a few other species of that genus, forms small woods on all mountain tops in Java. The same species live epiphytically in the rain forests. A tree or bush very characteristic of this region is the *Anaphalis javanica*. In leaf and bloom it greatly resembles the edelweiss of the Swiss Alps, and, like the latter, belongs to the family of the *compositae*. Other lower and more herbaceous species of edelweiss are also found in the tropical mountain regions.

Among the lower growths are many herbaceous plants. These belong to the same genus as generally known plants of the

which are wanting further inland, namely the *Barringtonia speciosa* and *Terminalia Calappa*, the former of which strikes the eye by the extraordinary length of its dangling bunches of magnificent red and white blossoms, the latter by its summit being periodically leafless, though only for a very short time, the large leaves turning a dark red colour before they fall. Whilst the tree species of the rain forest become continually rarer and disappear, and forest giants are almost entirely wanting, there appear a great number of species of trees and bushes not found in the interior. For the most part they are not very high. In this connection we may mention the *Hibiscus tiliaceus*, with its snake-like contorted trunk and branches, and large and beautiful mallow-like blossoms, which are



1. A CORNER OF THE GARDENS.

2. CLIMBING PALMS.

3. THE LITTLE LAKE.

4. MAIN AVENUE.

5. "BAMBUSSA POLYMORPHA."

In so far as they have woody growths, the trees are low, gnarled and knotty, with sinuous branches and umbrella-shaped top. One of the largest species is the *Leptospermum javanicum* (family of the *Myrtaceae*, "Myrtle Blooms") which can attain a height of 50 feet, but usually spreads out in branches at a very small height. The leaf is small, hard and glistening, and the top is almost always covered with extremely numerous white blossoms. It is remarkable that this species, which has numerous kindred in Australia, whilst only two kinds occur in Malacca and the Malay Archipelago, is limited in Java to two mountains in the west exclusively, the Gedeh and Pangerango. More general, but likewise limited to West Java, is the *Myrica javanica*, a small tree

cooler zones, *Viola*, *Plantago*, *Valerian*, *Sonchus*, *Galium*, *Alchemilla*, *Ranunculus*, *Thalictrum*, *Agrimonia*, *Euphorbia*, and *Pteris aquilina*. The highest mountain tops are covered with short grass (*Festuca*) and with bush reduced to dwarf size. The most characteristic species found on this alpine steppe is the *Leucopogon javanicus* (the epacrid, chiefly an Australian family), which shows a great resemblance to the European heather and often gives the alpine steppe the appearance of a heath.

IV. BEACH FLORA.—I. Beach jungle. Where the heterogeneous tropical rain forest extends uninterruptedly to the coast, it nevertheless somewhat modifies its character in the vicinity of the beach.

Two species of trees appear in particular,

found throughout the year, and the *Casuarina equisetifolia*, resembling the *Casuarina monilata*, which forms the high upland woods in East Java. Climbing plants are present in a large number of species, but with a few exceptions (*Eutada scandens* and *Vitis foetida*) not in the gigantic dimensions which they attain in the interior. Epiphytes, which include *Asclepiadaceae* and *Orchidaceae* with very thick leaves, become very rare, the soil is hard and firm and here and there covered with dead leaves, but nowhere with that dense growth which makes the rain forest so difficult to penetrate. The trees at times form compact groups and then again scatter, open or sparsely-grown patches appearing where a few large beautiful bulbous plants (*Cinnamomum asiaticum*, &c.) attract the eye.

As regards the leaves, they are characterised by their peculiar thickness and leather-like appearance, and become thicker and more fleshy as the coast is approached. They do not taper to a point, but a very large number of species are found with rounded or serrated leaves. Although these woods are in a rainy tropical climate, they have the characteristic of *xerophilia* (capacity for withstanding drought and limitation of transpiration) in common with the forests of the higher mountains, this fact being, in the latter case, connected not with the dry thin air, but here with the salt contained in the soil, which renders the absorption of water difficult. Whilst a large number of tree species in the rain forests of Java are endemic or occur exclusively in the Malay Archipelago, endemic species are almost entirely wanting in the coast forests; and there, on the contrary, very many are found which are very widely extended. There are thirty-two species at least which are distributed throughout the tropics over the entire world.

This phenomenon is a result of their station in conjunction with the property possessed by their fruits of floating upon water and yet retaining their germinating power for a very long time.

2. Formation of downs. A comparatively rare phenomenon in Java is the flat sandy beach so general in Europe, which shelves steeply or gently, and, in the latter case, at ebb tide forms a broad dry strip. Such beaches in Java are sometimes almost entirely devoid of vegetation, with the exception of a couple of peculiar creeping plants, the *Ipomoea pes-caprae* and *Spinifex squarrosus*, each creeping by means of long runners spread out over wide areas. The last-named has a remarkable way of scattering its seeds. The fruiting shoots are large and perfectly spherical. The seeds are massed in the centre of a bulb, the size of a man's head, at the foot of long stiff stems standing out in every direction like bristles. The ripe fruiting shoots drop off, roll like light balls along the ground, and are carried to great distances by the wind and sea currents. Frequently, this down formation has a richer growth, and it passes here and there gradually into the beach jungle.

As characteristic beach tree species, mention should be made of the *Pandanaeae* (screw pines), the high trunk of which, conical at foot and attaining 30 feet in height in some species, does not touch the ground, but is carried by numerous stilts; the *Cycasae*, with their strange thick trunks, sometimes split like a fork but otherwise branchless, which at their summit carry fern-like foliage; and various species of palms, of which the cocoanut palms are encountered, both growing wild and cultivated, on all coasts; the fan palms which form complete homogeneous coast woods, and which are represented by two species, one of which is found exclusively in the west of Java, *Corypha umbra-culifera*, and the other *Borassus flabelliformis*, sparsely in the west and very frequently in the eastern part of the archipelago. Finally, the *Nipa*, a low palm, but having gigantic leaves four to five metres in length, resembling cocoanut leaves, which mostly forms dense woods of great extent here and there on the outer edge of the beach forests.

3. Mangrove and tidal forests. Wherever the seashore is flat in the tropics and protected against burning, wherever under the influence of ebb and flood and the slime brought up by the rivers there is a constant formation of alluvia, the beach is surrounded by a girdle of forest, which, lying at the outermost limit between sea and land, is

alternately washed by flood and laid dry. This is the mangrove formation. In Java, this is found along a great portion of the north coast, and on the south coast at the mouth of the rivers. The outermost boundary, the mangrove in a narrower sense, is formed by a small number of species belonging to the family of the *Rhizophoraceae*, all of which are adapted in the most marvellous way to enable them to maintain themselves in their peculiar place of abode. Their trunks do not touch the ground; they are carried by supporting air roots, which radiate out from the trunk on all sides, repeatedly branch off forkwise and hold the tree fast anchored in the soft mud. The seeds of these trees do not drop before they have germinated and have formed long cylindrical and somewhat wedge-shaped roots (in some species 2 feet long) which in turn radiate out side roots, and thus, when they have fallen off, are adapted in the best possible way to maintain themselves standing in the mud. In Java there are three sorts of *Rhizophora* and four of *Bruguiera*; of the last there are some capable of attaining a considerable height.

Further towards the interior the mangrove trees are accompanied, and in the more brackish water replaced, by a large number of low species of trees and bushes, which are adapted to their abode in all ways and manners, being not infrequently in the possession of roots growing vertically upwards suited for respiration (*Sonneratia acida*). In Java the tidal forests gradually pass into the beach forests dealt with above.

V. MARSH FLORA.—Java is not very rich in stagnant water, and the number of water plants is fairly small. A few floating water plants, such as species of *Lemna* (duckweed) and *Nymphaea* (water-lily) remind us of the flora of Europe. The peculiar *Pistia stratiotes*, with its thick-set rosette leaves, which spreads with extraordinary swiftness by means of bulb-shaped roots, is, on the contrary, a typical tropical plant.

The most beautiful and most renowned of all water plants is the *Nelumbium speciosum*, the holy lotus (patma) of the Hindus, the beautiful rose-red flowers of which are depicted on the images of Buddha. Their edible ripe seeds, however, are more highly prized by the descendants of the Hindus formerly established in Java than the holy blossom is revered.

Great swamps, becoming submerged in the rainy season, occur above all in East Java; during the dry period they form grass fields containing reed grasses, cyperus grasses and the ubiquitous *Typha angustifolia*. Swamp forests also occur at some points, but have not yet been very carefully investigated in Java.

VI. SAVANNAHS.—Alike in West and East Java, wherever the forests have been felled and not directly replaced by cultures, the grass wilderness of savannah appears both in the plains and on the mountains up to 7,000 feet high. These savannahs are formed by a small number of species of grass, among which alang-alang (*Imperata arundinacea*) plays a chief part. This grass creeps along deep beneath the soil by means of thin tough root stocks. These roots are so strong and clothed at the top with such hard sharp scales that they are often able to bore their way through the roots of other plants. The height of the stalks of the alang-alang grass ranges from half a foot to four to five feet, and the white ears are thickly covered with fine silky-haired seeds. Other sorts of grasses are species of *Anthistiza*, of which the gigantic *A. Gigantea*

occurs chiefly on the borders of brooks and moist patches of ground. At other points the savannah consists almost exclusively of the much higher wild sugar-cane, glagah, which attains a height of eight to twelve feet and often occurs in groups in the alang-alang field; when it occurs, however, in spots where there is no other growth, such as on the Island of Krakatoa, it forms almost impenetrable grass wildernesses.

Disseminated through the savannahs a fairly large number of species of trees and lianas occur, often combined into tree groups, mostly low trees and bushes (about 30 feet).

Among those already referred to above, the *Parasponia parviflora*, and further a small species of the *Euphorbiaceae*, the *Phyllanthus emblica* and some species of *Ficus* are the most general, all of them, like the alang-alang, being indifferent to the soil and altitude. Where Nature is left entirely to itself, these tree groups undoubtedly act as the pioneers of a spontaneous reforestation.

When the sugar-cane savannah appears, as in the Island of Krakatoa, as the first, so to speak, connected clothing of soil totally bereft of all vegetation by volcanic eruption, there, from the seeds brought by winds and birds from the neighbouring islands, isolated trees and small clumps grow up, which undoubtedly will, in the course of time, gain the upper hand over the grassy wilderness.

On the Island of Sumbawa, which was devastated sixty years ago by the eruption of the Tambora, this already has been fulfilled.

The numerous devastated lands of Java, however, are not in the same favourable conditions, because the grazing of cattle, fire and the cutting of the alang-alang by the population are a standing hindrance to reforestation, whilst, furthermore, the lands are almost entirely bereft of their humus by reckless and wasteful tillage.

Above all, in East Java, with its periodical dry period, a reforestation of the waterless steppe can hardly be anticipated within any measurable time.

VII. IMPORTED PLANTS.—Among the constituents of the beach forests there are, as we saw, a number of species which are encountered in the tropics throughout the entire world. Their position and method of spread gives an explanation of this.

In the interior, however, there are likewise a fairly large number, mostly among the lower herbs, which occur in both hemispheres, and of which some are cosmopolitan of the tropics and some even ubiquitously encountered, i.e. species growing wild in all climates (*Galinsoga parviflora*).

Of these there are perhaps some, such as *Urena lobata* (*Malvaceae*), which have obtained such wide extension spontaneously. By far the majority, however, have most certainly been introduced by man with seeds of cultivated plants, and in proportion as the interchange of seeds increases throughout the world, both by means of botanical gardens and individuals, the number of imported species of plants, which already amounts to about seventy-five in Java, grows year by year.

Very many of these intruders have escaped from the plant garden, and many of them have hitherto only been observed in the neighbourhood of Buitenzorg and Batavia. Others for a long time have been scattered throughout the whole of Java, and actually form a constituent portion of the Javanese flora. Three species desire special mention, because their dissemination has had a notable influence on the character of the flora in one region. These are the *Latana camara*, *Eupatorium javanicum* and *Arianthe aduncum*.



CANAL WORKS IN SUMATRA.

IRRIGATION IN JAVA.

LITTLE or nothing is known as to the earlier history of irrigation in Java. Philological investigations have alone been able to show that the oldest aboriginal population of Java cultivated rice in irrigated fields divided into terraces.

In the first century of our era invasions took place from the Indian continent which were of such extent that the Hindus soon appeared in Java as the reigning people. The mighty monuments still surviving from this Hindu period show to what degree of development the country then attained. It must be presumed that this could not have anything but a favourable influence on cultivation, in particular on rice cultivation. The spread of Islam through Java in the fifteenth century was one of the chief reasons of the decay of the Hindu Kingdom. The rising Mahomedan princes in various kingdoms were able to maintain a powerful central authority at first. The absolute monarchy, by which the Javanese population were governed for centuries, has certainly left its impress in the first place on the Javanese race.

Indispensable for rice growing, irrigation, which can be called into existence and maintained better by combined than individual effort, was a powerful factor in strengthening the desah and, consequently, communal ownership.

The first Government interference with irrigation work related to the Oosterslokkan, in the residency of Batavia, which was carried out from 1739 to 1753 by private individuals under pressure of the Government. The Westerslokkan, not in its present form, but first intended chiefly as a supply channel of the Tjiliwoeng, was dug in 1766 at Government expense. As early as 1777 a captain of engineers was entrusted with the superintendence of the Oosterslokkan.

At the beginning of the last century complaints were already heard with regard to falling off in the rice cultivation.

The results of an inquiry into this question were not very much more than observations which, owing to their generality, were practically worthless. When these complaints

were repeated later the scarcity of rice was attributed to the system of cultivation, which not only deprived rice cultivation of many sawahs, but at the same time was alleged to make use of the irrigation water so essential for European cultures, chiefly sugar-cane and indigo.

Although in the first instructions to the Hydraulic Administration in 1818 it was already laid down that in proposed works attention should be given to the interests of agriculture, but little benefit could be expected from this, in view of the circumstance that until 1884 the number of engineers was not more than five.

In that year this number was increased to ten, and soon considerable amounts (about Fl.400,000) were made available for irrigation works in the residencies of Besoeki and Cheibon.

Shortly after this, considerable works were undertaken for the irrigation of the department of Sidoardjo, in the residency of Sourabaya, at Lengkon, up to an area of almost 50,000 bouw of irrigated fields, to which, in addition to the unpaid labour and of a large number of forced labourers, Fl.2,600,000 were devoted. A famine in 1848 in the residency of Semarang likewise led to the construction of a storage dam in the kali Toentang, at Glapan, with irrigation courses tapping off the water on both banks.

Not until 1854 was the Department of Civil Public Works called into existence, whilst the number of engineers was then increased to thirty-three. During the following years, it is true, various irrigation works of more or less extent were carried out; but in this connection, too, there was never any plan or proposal of general irrigation. The work was mostly restricted to replacing by permanent work, without proper preparation of the plan, native dams and distributing works, the maintenance of which was beyond the powers of the administrative officials.

This method of working was abandoned in 1872 when for the improvement of the water supply and drainage in the division of Demak, in the residency of Semarang, a careful altimetric survey was made, after which, by the aid of the existing maps,

proper altimetric maps could be compiled on which the complete system of water supply and drainage channels could be designed.

Similar surveys were also carried out in some other residencies, but, later, the survey was still further extended, and as a rule, after extensive triangulation work, the horizontal features of the soil were mapped together with the vertical, so that entirely new maps were prepared.

In fresh regulations for the service of the Hydraulics Department in 1885 a section of the Corps of Engineers was particularly entrusted with the preparation and execution of irrigation work. This instruction was, it is true, not maintained in the modified regulations of 1889, but the principle brought into prominence in 1885 of keeping the work of the Department of Irrigation as distinct as possible from other hydraulic works was adhered to.

From 1872 to 1890 inclusive an amount of Fl.11,000,300 was expended for surveys and structures for irrigation work, of which some Fl.7,000,000 were spent in the division of Demak.

In accordance with a general irrigation plan brought forward with the estimates of 1891, after 1890 a sum of Fl.35,500,000 was still deemed necessary for the completion of sixteen irrigation works with a total area of 577,000 bouw, the work to be carried out by voluntary paid labour. It was not found possible to adhere in all respects to this general plan of irrigation. Of the sixteen works here referred to only three were not carried into execution.

The area of Java comprises 2,290 square geographical miles. Of this 4,800,000 bouw are cultivated, only 2,800,000 bouw being irrigable sawahs.

The irrigation of a large portion of the ground classed as irrigated sawahs still leaves much to be desired. When some irrigation works still in course of execution in the residencies of Bantam, Banjoemas, and Madoen are completed, which may be anticipated in a few years' time, 420,000 bouw of non-irrigated or badly irrigated fields will have received good irrigation at a cost of about Fl.28,000,000.

This does not include a sum of about half a million florins, which has lately been expended every year in small separate irrigation works.

Brief mention may here be made of a plan for improving the water supply and drainage of 223,000 bouw in the Solo valley which was begun in 1893, and the cost of which was estimated at Fl. 19,000,000. The work was stopped in 1898 when it was seen that the cost would be fully two and a half times the sum originally estimated.

It may be anticipated of some of the above-mentioned irrigation works that they will prove remunerative by direct benefits to the Treasury; still, this is true of a few only, because a considerable increase in agricultural revenues, which would ensure the Government a reasonable share in the advantages resulting from the irrigation works, is in conflict with the "ethical tendency" which has of recent years come so much to the fore in Colonial Government.

One of the reasons which compels the Government to use all means for increasing the productivity of the soil is the very prolific character of the Javanese race. Whilst the population of Java in the years 1795, 1830, 1865 and 1875 was estimated at three, five, seven, and fourteen millions respectively, the censuses of 1885 and 1905 gave the figures of 19,600,000 and 29,700,000, being an increase of fully 50 per cent. during the last twenty years.

Comparatively soon after the regulations of 1885 the conviction forced itself home that technical superintendence was necessary, not only for the establishment of the new irrigation works, but likewise for the conduct

and upkeep of these works. It was therefore found desirable to investigate how far the interference of the necessary technical staff with the improvement and distribution of water from the larger irrigation channels which had been constructed earlier by the population, would lead to favourable results.

Until that time, the distribution of the water was entirely in the hands of the native administrative officials and the population. Only in a few existing large irrigation works was the admission of water at the water-head regulated by a technically trained staff, but even in these instances, within certain limits, the requirements of the native administrative officials were complied with.

In earlier irrigation works the duties of the technical staff had been restricted chiefly to this regulation alone. The further distribution of water was carried out by the native administrative officials in an extremely primitive way, by distributive works of a temporary character, and it is natural that these administrators were called upon to fulfil a task which was far beyond their powers where large irrigation groups were in question.

The great difficulties experienced in this respect gave rise to a fault in precisely the opposite direction in the irrigation works designed shortly after 1885. In these works the water distribution was planned and carried out in detail down to areas of a couple of score of bouw. Experience showed, however, that water distribution over sections of an area of 150 to 250 bouw (these figures depending on the more or less even or uneven character of the soil) could be safely left to the population.

For carrying on the existing irrigating works chiefly constructed by the population, the Irrigation Department of Serajoe was erected by way of trial in 1888, and extended over the then residencies of Bagelan and Banjoemas. The original results were viewed favourably, so that in 1892, again by way of trial, the Irrigation Department of Brantas (extending over the residencies of Pasoeroean, Kediri, and South Sourabaya) and Serang (comprising chiefly the residencies of Semarang and Japara) were established.

Save in the Irrigation Department of Serajoe, a long time passed before these arrangements were declared definitive, which was done for Brantas in 1901 and for Serang in 1908.

Only in 1907 was the service of the irrigation divisions further extended. There were established in succession the irrigation divisions:—Pekalen-Sampean in 1907, Pemali-Tjomal in 1908, the section Madioen of the future irrigation division of the Solo River in 1909, while the irrigation division of Serajoe was extended to cover the territory of the former residency of Kedoe. It may be anticipated that in 1910 the irrigation division of Tjimanoeck, which will extend over the greater portion of the residency of Cheribon, will be established.

In this way the chief irrigation works, and likewise the great irrigation groups, will have been brought under technical control. Only after completion of the great irrigation works now in course of execution in the residencies of Bantam and the Djember division of the residency of Besoekei will it be expedient to make any further extension of the irrigation divisions.

AGRICULTURE.

BY W. J. GALLOIS, Acting Manager of the Government Experimental Gardens, Buitenzorg.



EXTENDING between the fifth and ninth degrees of south latitude, and thus lying close to the equator, the island of Java has a purely tropical climate, and in it tropical vegetation appears in its full luxuriant splendour. Heat and moisture, the two chief essentials for powerful vegetal growth are present in a high degree, and combine with a fertile soil to give the island that ever-green, ever-luxuriant garb which awakens the admiration of every stranger. The snow limit lies at such an astonishing altitude in these regions that even the highest mountain tops cannot reach it, so that the luxuriant vegetation still occurs far up into the mountains, although the flora there has adapted itself to the cooler climate, and for this reason differs somewhat from that of the lowlands.

This difference is clearly manifested in the cultivation at high and low levels. From the extensive sugar-cane fields in the lower plain, we pass as we rise, into coffee and tea plantations, and finally into the sombre woods of a *Succa rubra* plantation.

Whilst in primeval times man had to seek his food merely from what Mother Nature set before him, the increase in the population

gave rise gradually to the need of cultivating those plants which were necessary for man's sustenance, in order to be secure in the possession of a sufficient store of food. Later, much later, in proportion as the means of communication developed, enabling peoples to come into contact with each other who had previously been left in complete isolation, it was found that products originating in one region were greatly needed in another region, where, however, climate and soil did not allow of growing them.

In this way demand arose and gave the impulse to the planting of more of the products in question than was requisite for the planter's own needs, thus creating supply in order to procure foreign products by exchange.

Thus, after many evolutions, the world's market arose, and it is by no means surprising that in Java, too, with its fertile soil, great plantations and cultivations have arisen which have for their exclusive object the growing of products for that market. These undertakings, having capital at their command, are able to erect costly factories for preparing the product, and also to plant growths which will only begin to yield revenue after many years, all, however, in the hope of obtaining large profits.

As compared with this agriculture on a large scale, a sharp contrast is formed by the small agriculture of the native population, which is still in a stage strongly reminiscent of the primeval conditions just described. The native possesses no capital, he lives from hand to mouth, he is able to grow only those plants on his plot of ground which can be harvested within a short time in order that he may continue to exist on the yield until the following harvest is gathered in. Therefore, wherever plantations of more than a year's growth are found in Java, one may safely conclude that no natives have rented or leased this soil; only on the large (European) plantations are plants of more than one year's growth found.

It is no easy task to enumerate all that is "put into the soil" by the Javanese for his maintenance. This expression is intentionally used, because there is often no question of cultivation in the proper sense, *i.e.* planting and tending with care and judgment. The climate and the soil, it is true, have made the Javanese a born agriculturist, but an agriculturist in this sense, that he seeks out the spot where the thing needs to be planted and that he then gives himself the trouble to put this plant into the ground on this spot in an extremely primitive way, but after this

he is of opinion that everything else can quite safely be left to Mother Nature. In other words, intensive tillage, maintenance and manuring of the soil, are still unknown factors in agriculture to 99 per cent. of the Javanese. Nature, it is true, has fully met their anticipations hitherto, but she is, nevertheless, giving gradual indications that a little assistance would not be amiss in the fulfilment of her task, as the number of mouths to be fed is increasing at so fast a rate. Therefore the apprehension is by no means devoid of justification, that if the agriculture of the native population remains at the same low level, Java within a measurable time will be unable to feed her own children any longer, and earnest endeavours are being made to imbue the Javanese with better ideas with regard to agriculture. He must be taught to realise that a time will come when the soil will say: "I can do no more unless I am tilled better and more deeply, unless I receive more food than I have hitherto been enabled to absorb from the air, unless the parasites are prevented which are of no use to man and which deprive me of food," so that he hastily looks to his implements and gives a greater length of the day to his task than was hitherto his practice. In order to achieve this result, however, an inroad must be made upon the conservatism of the Javanese, and everyone who has had much intercourse with that people will know what a gigantic task is contained within these few words.

All these observations upon native agriculture in general are likewise perfectly applicable to its principal branch, rice cultivation, and to the growing of this, the chief food in Java. In this department, too, wherever the conviction exists that greater harvests could be secured by a more rational method of work, and wherever it is endeavoured, either by demonstration before his eyes or by advice and instructions, to induce the Javanese to take this to heart, everywhere a tacit resistance is encountered which can only be overcome gradually after many years of waiting, with infinite patience.

There is a Javanese legend which tells of how the origin of rice came about. It is too long to be reproduced here, but it has a very strange and, at times, injurious influence on the way in which rice cultivation is practised. Here, just as everywhere else with peoples in a state of nature, superstition and the habits of ancestors lay down the law, from which there may be no departure. Rice cultivation has become, for the Javanese, a sort of cult. It is his duty to plant rice, even though he at times may be well aware that under the particular conditions it would be of greater advantage to him to grow some other plant.

In various regions of Java the Javanese is limited exclusively to the wet monsoon for rice cultivation. Owing to the lack of irrigation he is compelled, in the east monsoon, to cultivate other plants requiring little or no irrigation. Of necessity, here there is an alteration of cultures which cannot but be beneficial to the soil. These plants are called second cultures, in contrast to the principal cultivation, rice. They do not enjoy, moreover, the same high esteem as the latter plant. This lesser appreciation is entirely unfounded, however; there are some among these second cultures the product of which has more nutritive value than that of rice; there are some which, when sold, yield the planter a profit with which he can buy more rice than if he had had to grow the latter himself.

Thus, maize yields another food product which in some regions, particularly in moun-

tainous tracts, has completely ousted rice as a food. The property possessed by maize of flourishing equally in mountainous and flat regions and of being ready for harvest within three to five months, according to the species planted, render it one of the most useful field cultivations of Java. After the rice harvest it is sown in plant holes on the still rather moist field, just after it has been ploughed in shallow furrow; after this the plant is earthed up once or twice, and then all has been said as to the way in which cultivation is carried on by the Javanese. He reaps the fruit for himself and the leaves

just as simple, and this plant likewise can be harvested in about four months.

Far more useful, in fact the most useful of all tubers, is the *Manihot utilisima* (cassava). Not without reason has it received as part of its name the superlative of *utilis* (useful), but, notwithstanding, eight or nine months must elapse before the product can be reaped. Owing to this fact it comes into conflict with rice cultivation, and is, consequently, exclusively planted on dry waterless soils. As in the case of the *Batatas edulis*, it multiplies by means of sets or slips, which can be got for nothing in most parts. For



GUTTA-PERCHA TREES, EXPERIMENTAL GARDENS, BUITENZORG.

and stalks for his cattle, and the ground is once more ready to be sown, either with another intermediate plant of short period or with rice again immediately. Maize is a plant which is adapted *par excellence* for the dry monsoon. It is very sensitive to an excess of water, and, therefore, in the wet monsoon it is only found in high-lying non-irrigable lands.

Further, the *Batatas edulis*, a tuber, is extensively used when rice is scarce. Its nutritive value, however, is far inferior to that of maize. Nevertheless, its cultivation is

the development of its tubercles it prefers loose soil. This is why it flourishes to such an extent in those regions of the residency of Kediri which, being covered with volcanic sand, have a loose and permeable soil.

The three above-named plants are nearest to rice as food cultivations. At times of harvest failure they take its place as the staple food, and brisk importation from adjoining regions to the afflicted part takes place. Though the trade in the two first-named products is limited exclusively to the various regions of Java among themselves

(the exports of maize are not worth mentioning), the case is quite otherwise with the cassava, the product of which, in the form of dried discs or roughly prepared flour, is used as the raw material for the

now of necessity have to sell the surplus product to buyers at extremely low prices.

Another "second" culture, the earth-nut or *Arachis hypogaea*, known for the large quantity of oil contained in its seeds, is

distant mountain regions at the present time. The earth-nut oil has found another use as machine oil, which is in great demand for export. The *arachis* is likewise exported, peeled, as a fruit. The greater proportion, however, goes to the ever-increasing number of oil factories which have made the *arachis* definitely a commercial plant. The residue, after pressing out the oil, always has a sale on agricultural estates and properties, as, owing to its large contents of nitrogen (about seven per cent.) it is a valuable manure for plantations.

The *Soja hispida*, originally imported from Japan, is now encountered everywhere in Java. The natives buy the seeds and allow them to grow mouldy; under the name of tempeh they are then found on the smallest markets, and are much in demand as a nutritive relish with rice. The Chinese buy the article, from which they prepare the well-known soja (or soy), an indispensable ingredient in every Chinese meal. As this plant prefers the dry to the wet monsoon, it forms an ideal second culture for the native population, owing to its short period of ripening.

A prominent commercial plant is tobacco, which is cultivated in both high and low-lying regions. The culture of tobacco is somewhat more developed than that of the second cultures mentioned above. For tobacco, however, covered beds are necessary, and manure must be used. Caterpillars must be looked for, and a good deal of weeding must be done. After replanting, the young plants are supplied with protection against the sun. As the Javanese is a great slave to the tobacco habit, both in the form of smoking and chewing, a brisk trade is, of course, carried on in the ready product. The tobacco from specific regions enjoys an excellent reputation, and it is chiefly the Chinese who take care that such well-known "brands," often, alas, with the "necessary" adulterations, are spread throughout Java.

From the foregoing it is evident that the product prepared by the native is used exclusively for his consumption, and occurs exclusively on the native market. Tobacco,



PLOUGHING RICE FIELDS, JAVA.

tapioca factories in Europe. As a proof of the enormous increase of trade in this product of later years, it may be stated that in 1897 658,000 kilogrammes were exported, whilst in 1907 the exports were about forty-four million kilogrammes.

At the outset all these quantities were obtained by purchase from the native population, but gradually, owing to the increasing demand for this article, buyers began to rent or lease ground in order to obtain their raw material cheaper by cultivating it themselves. Simultaneously, establishments were erected for working up the product with the object of putting it on the market in as pure a form as possible, thus obtaining higher prices. Thus step by step, in addition to plantation by the native, a great industry has arisen, which, however, had no sooner come into existence than it had to experience the adversity which every rising industry must pass through before it can be said that it really possesses vitality. The countries which had been constantly reckoned on as a market suddenly established high import duties, the plantations were ravaged by the red louse, an insect, previously found in the small isolated plantations of the native population, which had caused no damage worth mentioning, but which, in the large connected groups now formed, multiplied hugely and caused the fall of the leaves and consequent stoppage of growth on a large scale.

To have a lesser yield and to receive a lower market price for that yield is a severe trial for the planters, and the future must show whether this new industry can maintain itself permanently.

The native population is also keenly feeling the reaction of the fall in prices. Wherever, tempted by rapid sale at good prices, they had persisted in planting more than was necessary for home consumption, they will

likewise beginning to attract attention in the export world. The original native variety which needed nine months to ripen was planted on a small scale and the product was only used as an accessory food to rice, the oil obtained being used as cooking oil and for lighting the native dwellings. The late Mr. K. F. Holle introduced a new variety which bears his name in many parts. Owing to its earlier and larger production, ripening



RICEFIELDS OF THE BATAKS, SUMATRA.

in about one hundred days, the new variety has entirely supplanted the old native plant. A peculiar fact is that the oil is no longer used for lighting purposes, petroleum being burned even in the smallest villages in the

however, is also sold in leaf to buyers who own tobacco sheds. They allow the leaves to ferment, assort them and despatch them in bales abroad, where, mixed with other qualities, they form the raw material for cigar

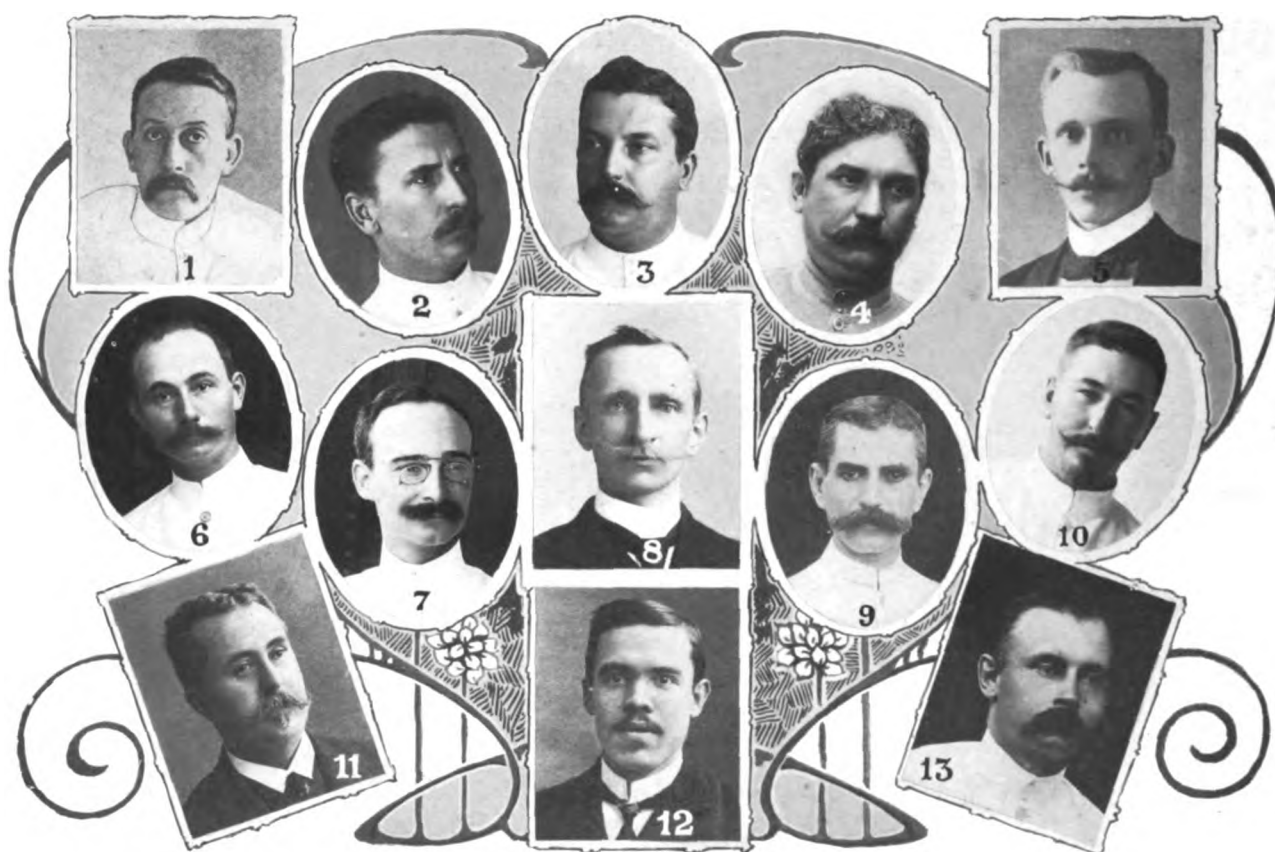
manufacture. There are various tobacco centres in Java where the native is engaged in harvesting by contract for export alone. In addition to this harvest of tobacco for export by the native population, where the raw material is in this way brought up, there is also some amount of European tobacco cultivation in some residencies in Java. This cultivation is on a higher level, and nothing is left undone to make the quality of the product as good and the quantity as great as possible. For this purpose science has been called in, and endeavours are made to improve the plant by a careful selection of seeds, the effects of different manures on the growth, &c., of the tobacco plant are carefully observed, and in the laboratory a thorough study is made of diseases and pests to which tobacco is subject, in order to combat them on a large scale.

product, by means of extremely primitive tools, is converted into articles of apparel for home use. There is no question, however, of any planting proper in most residencies. Only in the sections Demah and Grobogan, of the residency of Semarang, are large connected plantations found, and the cotton here is a commercial plant. With a view to rice cultivation, however, that variety of cotton only is grown here which can be planted and harvested between the two seasons of rice. As the population at the present time in the remotest interior of Java can get cotton goods at a very cheap price from British and Dutch mills, it gives rise to no astonishment that cultivation for themselves, with all the trouble that attends it, is not in great favour.

The colour preferred by the Javanese in Central and Eastern Java for their clothing

being so advanced as his European colleague, who, before he grows anything, thinks out carefully whether it would not be more advantageous to purchase the desired product and to devote all his time to something else than to grow it for himself.

As was already stated, it is almost impracticable to enumerate everything that is planted by the Javanese. Without laying oneself open to an accusation of great exaggeration, one may safely say that every discoverable non-poisonous tuberous plant, with not too unpleasant a taste, is always edible in his view, and the same is the case with regard to young leaves, a decoction of which is eaten with the rice. The chief plants harvested on arable land have been dealt with above, but there is a legion of others which are ripe for harvesting sooner or later, and which are planted both on



REPRESENTATIVES OF VARIOUS AGRICULTURAL ENTERPRISES IN JAVA.

1. L. SCHOL (Director, "Eerste Ned. Ind. Koffiebrandij," Malang).
2. F. A. G. L. HOEFDE (Manager, "Kebon Aroem" Estate).
3. D. DE GRAVE (Manager, "Dihyo" Tobacco Estate).
4. A. J. V. VAN LEEUWEN (Manager, "Diarit" Tobacco Estate).
5. W. L. BURMAN VAN VRIEDEN (Manager, "Wedi Brit" Estate).
6. F. FRANSSEN (Manager, "Galampit" Tobacco Estate).
7. D. ROESSINGH VAN IJERSON (Manager, "Mlessen" Tobacco Estate).
8. W. A. TERWOGT WZN (Head Administrator, Cultuur Maatschappij, "Wedi Brit").
9. W. H. SOUSMAN (Manager, "Kebonagoong" Tobacco Estate).
10. G. WHITMAN (Manager, "Gantiwarno" Tobacco Estate).
11. T. C. JEFFING (Manager, Cultuur Maatschappij, "Sibowak Sawangan").
12. H. W. REINKING (Manager, "Kali Panting" Tobacco Estate).
13. A. NOORDHOEK HEUT (Manager, "Dihyo" Tobacco Estate).

Other commercial plants are the *Ricinus communis*, the *Sesamum indicum*, and the cotton plant. The *ricinus* and *sesamum* are both quick-growing plants; from the latter is obtained the castor oil which all chemists supply. It likewise provides an excellent lubricating oil which is largely used in the numerous factories in Java.

The cotton harvest is of importance only in some districts of Java. It is true one finds scattered here and there in out-of-the-way corners a few cotton plants, and the

is blue, and they obtain the necessary dye from the indigo plant. Originally a Government cultivation, afterwards a flourishing private culture, the indigo of Java, owing to the discovery of synthetic indigo, fell so greatly in price that most of the businesses were unable to keep going. Only here and there is a concern still at work, but it may be said safely that the growing of indigo is now everywhere conducted on a small scale and entirely in the hands of the natives. The native agriculturist, however, is far from

arable and unploughed land. Of these a few may be mentioned briefly:—

Various leguminous plants, species of *Phaseolus*, *Pisum sativum* and *Vigna sinensis*.

The latter is encountered everywhere.

Solanum melongena.

Cucumis sativus, our cucumber.

Species of capsicum, without which the Javanese do not like their rice. Capsicum may possibly become an important commercial plant.

Maranta indica (arrowroot) is exclusively planted on unploughed lands.

Potatoes, cabbage and onions in the mountain regions.

Various spices, such as ginger and curcuma.

In addition to field agriculture, farm husbandry is of great importance. It is on farm lands that plants of more than one year's growth are cultivated. In the shade of the latter, then, those second cultures in mixed husbandry are grown which cannot bear the glaring sunlight in the open field. On entering the Javanese farm the eye is first struck by bamboo bushes which indicate the boundary of the neighbouring farm; appearing sparsely here and there are also a few cocoanut trees (*Cocos nucifera*) and an occasional penang (*Areca catechu*) as straight as an arrow, a few kapoh trees (*Eriodendron anfractuosum*) and between them some pisangs (*Musa sapientum*). No sign of order and regularity can be seen anywhere, nor yet of care and attention. Nevertheless, the above-named plants are of inestimable value to the Javanese, as they provide all the needs of people who are still in a very primitive state

the form of the desired article. Hunger and thirst are appeased by the cocoanut tree and the pisang, whilst a soft couch is provided



BULLOCK WAGGONS CARRYING PADDY, SOUTH BALI.

by the kapoh tree and the penang nut, and the leaves of the *Chavica betel*, clambering up along the kapoh tree, furnish him with

which has hitherto not been surpassed by any other :—

"According as a tree is intended for the production of the sap which flows out of the burst spadix or the production of fruits it requires a different treatment; for if the fruits are desired the sap must not be drawn off. From this sweet sap there are prepared by different processes palm wine, vinegar, yeast, and arrack. Of the fruits, which at every stage of development bear a different name in the native speech, not a single part is lost. If they fall when still far from ripe, various medicinal preparations are made from them; at a later stage of growth the kernel is eaten raw or cooked with other foods, whilst the moisture in the hollow then forms a pleasant and refreshing beverage. For the manufacture of palm oil, an indispensable article in the native economy for lighting, for the preparation of food, and as a cosmetic, the kernel of the very ripe fruit is chosen. From the shell spoons, drinking cups, measures of capacity, &c., are made, and the fibrous beard is plaited into torches, ropes, mats, paint brushes, etc.; nay,



PART OF THE GARDENS AT THE ALGEMEEN PROEFSTATION, SALATIGA.

of civilisation. Milk and wine, flour and vegetables, fruits and sugar, oil and medicines, rope and string, wickerwork and all kinds of materials for the building of houses and the making of house implements are in the possession of the Javanese within his small area, and he need, so to speak, only stretch out his hand to take them. If there is anything wrong with the household implements or the house itself, he takes his knife, walks out to his bamboo bush and cuts off a rod, which under his skilful hands soon assumes

a dainty morsel of which he is particularly fond.

The natural historian who gave the cocoanut palm its scientific name does not appear to have had due sense of its rare qualities. If he had, he would certainly not have been able to withhold from it the scientific title of *utilissima*.

This is the place to reproduce the masterly yet concise description of the usefulness of the cocoanut palm by Professor Veth, who, in 1875, produced a standard work on Java,

more, each separate part of the tree has its value. From the spathes small torches and ladles are made. The still undeveloped leaf buds are eaten as a vegetable; from the young leaves the baskets are made in which rice is boiled, a pleasant taste being thus imparted to the latter. From the older leaves large baskets are plaited in which fruits or other articles are taken to market, or they are used for plaiting light coverings. The wood, though not very durable, is used for building rough bridges, buffalo pens, &c.,

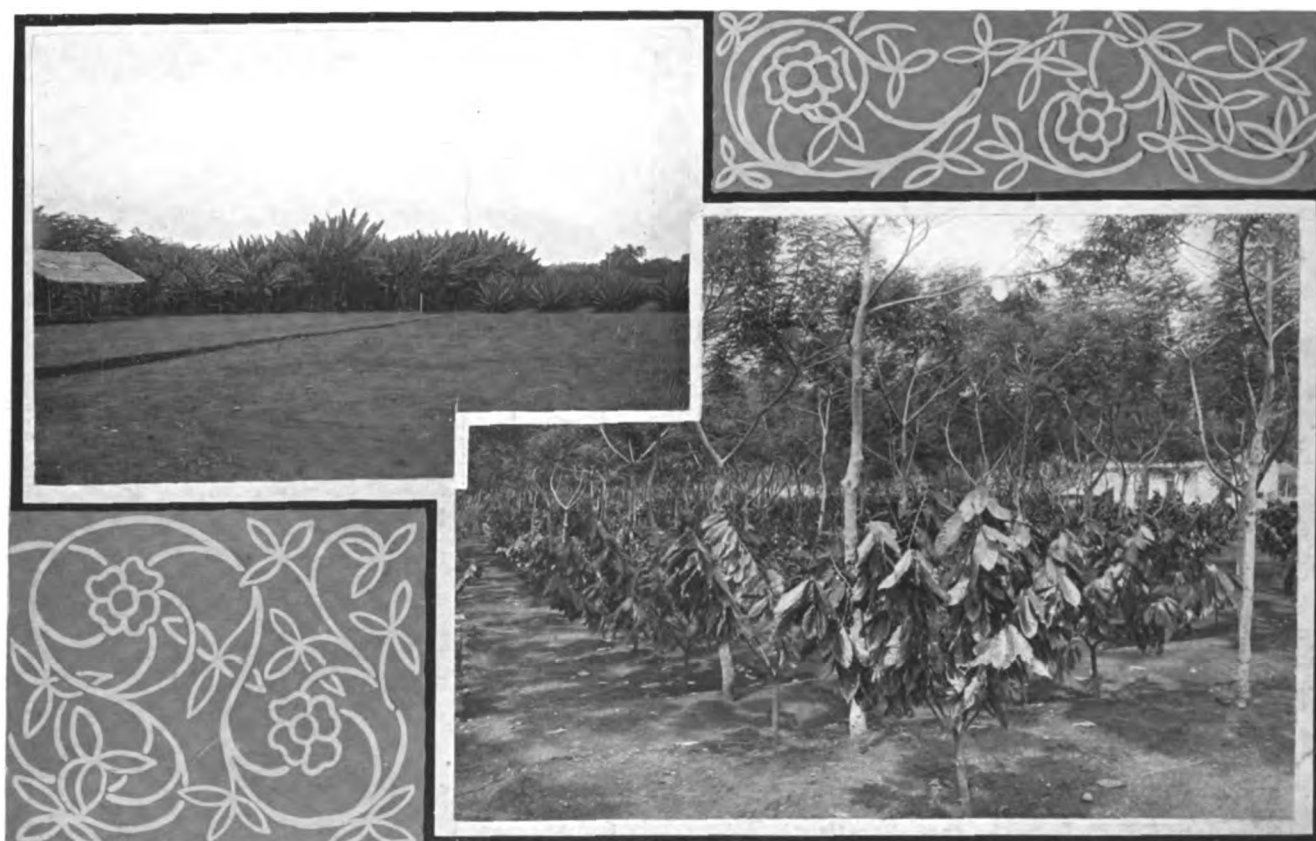
and when hollowed out often serves as an aqueduct."

For completeness it must be added that the coconut palm flourishes excellently on soil having salt water beneath, where no other culture can exist, and, in fact, which was not yet known in 1875, yields, in the form of the dried kernel (copra), a product occupying a large place in the market of the world. A continually increasing demand for copra has caused the value of the coconut tree to rise very considerably indeed, and whereas it was formerly regarded merely as a useful item in the native economy, it now occupies the proud place of second in the statistics of products exported from Java. In 1907 seventy-seven and a half million kilogrammes of copra were exported as raw material to soap and vegetable butter factories. With this figure before us, it is not sur-

in 1907 they rose to fully eight millions. When so considerable an increase of this light product is observed, it follows, of course, that wholesale trade has taken it in hand. As a matter of fact, at the time of ripening of the fruits, in the months of October and November, the dealers who act as intermediaries appear even in the most remote and smallest villages to buy up the product. These buyers, however, must take the utmost care that they have not palmed off on them an unripe product to which an appearance of ripeness has been given by treatment with limewater, &c. Fibre of this kind is not of much value. This sort of practice, unfortunately, the Javanese is somewhat prone to in order to get his money sooner. The product bought up is then cleaned of impurities, seeds, &c., in factories, often by machinery but by hand labour likewise, and

owing to the large number of its plantations, the amount of capital invested, and the highly scientific way in which it is carried on, has earned the fullest title to this place of honour. The history of the sugar industry is a fine example of what indomitable enterprise, facing adversity with undaunted courage, can accomplish. Time and again the sugar industry stood on the brink of the abyss and all thought it could surely not live through so severe a crisis, but it always rose again like a phoenix out of its ashes, better equipped than ever by science for its struggle for existence.

Let us, in imagination, turn back the hand of time for thirty years, and walk through a sugar plantation. We shall then see fields planted exclusively with Cheribon cane, the planting material of which is simply obtained by getting it from the fields of the preceding



CACAO AND MANILA HEMP GARDENS AT THE PROEFSTATION, SALATIGA.

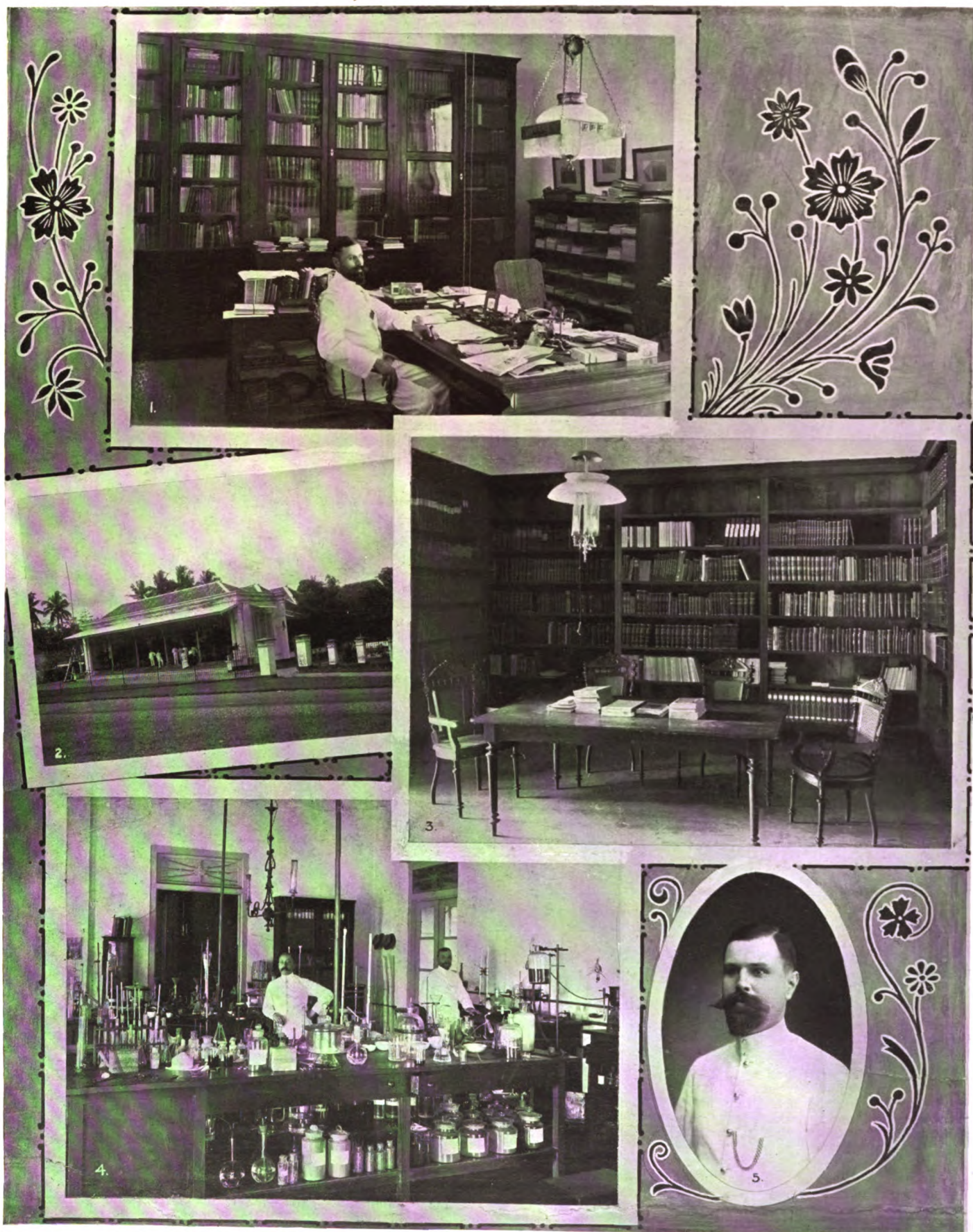
prising that European planters are more and more devoting themselves to a regular plantation of the coconut on leased plots of land. In higher mountain regions, the coconut palm is not encountered. Here begins the realm of the arang palm (*Trenga saccharifera*), which is chiefly useful by reason of the sap obtained from the stalk of the fruit clusters. Boiled and thickened this sap supplies the well-known arang sugar, which is eagerly purchased by the dwellers in the low plains. Further, the tree, between the trunk and the leaf stalks, also yields a black fibrous substance from which a coarse prickly rope is twisted, finding universal use in the native household.

In 1897 the exports of kapoh already amounted to nearly two million kilogrammes;

is then pressed in bales, after which it is ready to begin a great journey by sea. From the seed a very good oil is also extracted, and the residue is put on the market as manure. Of course, on the various plantations, kapoh is also found largely planted. The plant multiplies both by seeds and by stock, requires little attention, and is not very sensitive as to soil.

After having indicated the chief plants thus grown by the native husbandman, we have to deal in turn with the non-native plantations producing for the world market. In view of the fact, however, that to each of the principal plants cultivated a separate article will be devoted, it will suffice here to give a general survey. The first place is occupied by the sugar industry which,

We shall see a factory containing a steam engine, where the sap was evaporated and concentrated in open pans above a wood fire, where the Chinese sugar boiler was all-powerful and controlled the entire manufacture of sugar by putting his finger into the sap and attentively watching the latter drip off. During these thirty years a complete revolution has taken place, both in the field and in the factory. Owing to the serch disease, no more planting material could be obtained from the planter's own field. Deep in the mountains, where the serch disease had no hold, plantations were laid down, and the healthy "bibit" conveyed downwards. Foreign kinds of cane were imported, were crossed with the native, and the plants obtained from that seed were



1. OFFICE.

2. RESIDENCE AND LABORATORIES.

3. LIBRARY.

4. LABORATORY.

5. D. F. W. T. HUNGER, Director.

ALGEMEEN PROEFSTATION AT SALATIGA.

carefully selected and tested for their immunity against the disease. In the factory all hand work is replaced as far as possible by machines. Steam is here the powerful factor which both supplies the motive power and carries out the boiling down, and the entire progress of the sap from cane to sugar is carefully watched by trained employes in order to ensure the least possible waste of sugar.

Testing stations, erected and promoted by the sugar industry and equipped with a skilled and highly trained staff, are constantly at work searching for improvements to be applied in the culture and manufacture, and the results of that unabated energy have not failed to make their appearance. The production per unit of surface has been tripled, and though the present market prices of sugar are not one-fourth of what they

and the product of which shall find a ready sale on the market.

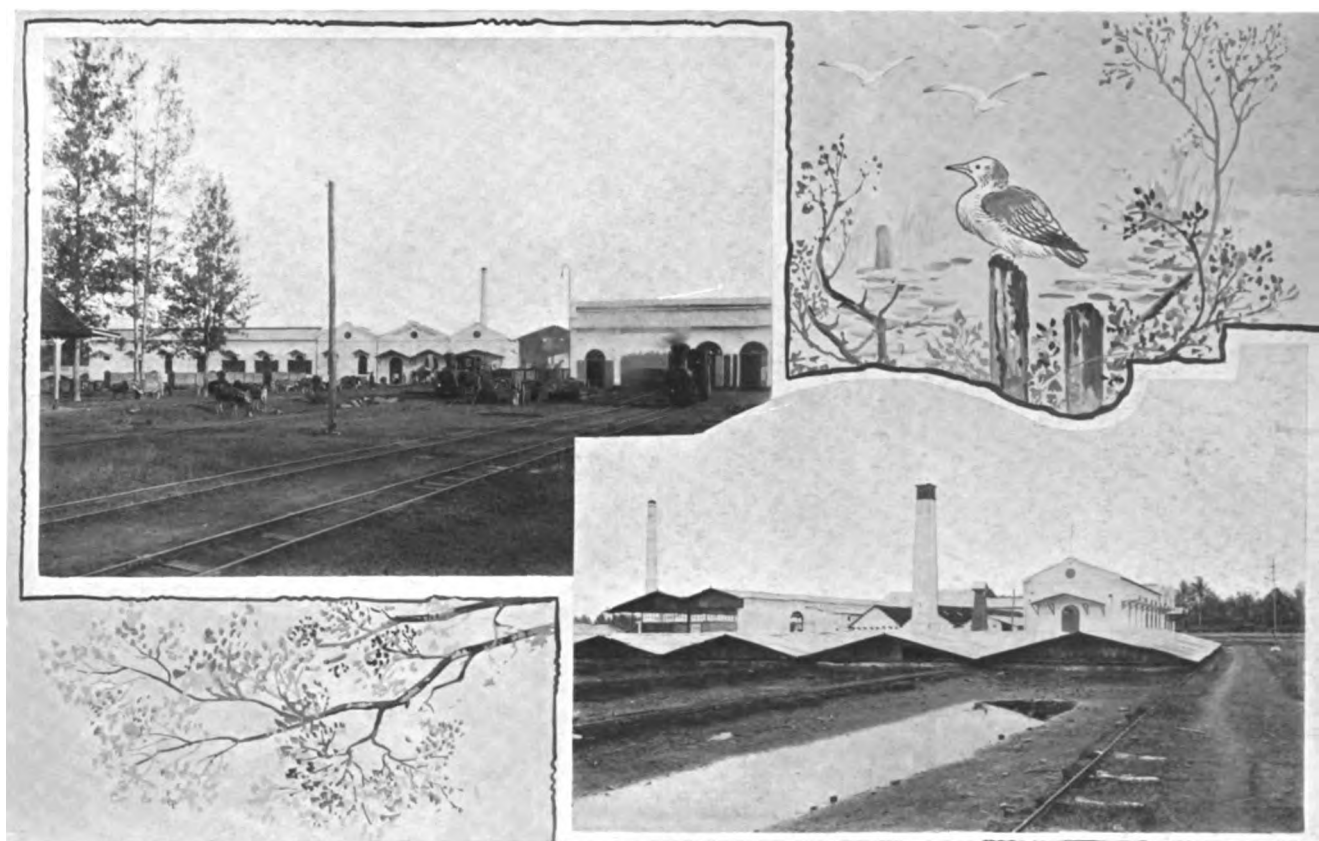
The development of the tea cultivation in comparison with the two above-named industries has been very gradual. Fluctuations in the market prices, insect pests, &c., it has certainly suffered from, but never to such an extent as to cause despair of its future. On the other hand, things are far from well with cinchona. Cultivators of this plant can also look back upon distressful years caused by heavy falls in the market prices. As the cinchona coming from Java, however, controls the world's market, such falls must be prevented by mutual interest.

The cocoa cultivation has not fulfilled the great expectations which had been cherished in regard to it. The cocoa tree, very sensitive to climate, only grows well in a few

but must not leave unmentioned the plants recently introduced. While it is impossible to speak of the certain future of any cultivation, it is not surprising that new plants are constantly being looked for and imported in the hope that they may adapt themselves to this new climate, that they will be spared by diseases and pests, and will yield an ample and remunerative production. Plants are indeed discovered which for many years have lived unnoticed, but to which, all at once, attention is directed owing to the constant increase of the demand for their product.

As an example of native growths and cultivation we must mention serah grass. Distilleries in ever-increasing numbers are being erected to extract from it the oil which is so much sought after.

Of importations, coca, fibrous plants, and



N. V. GALOEHAN TAPIOCA ESTATES AND MILLS, LIMITED.

SOUTH AND WEST VIEWS OF THE FACTORY, "GALOEHAN."

used to be, nevertheless ample profits are secured.

Sugar, coffee, tea, and cinchona are always mentioned in the same breath whenever reference is made to the chief European cultivations in Java. If, as we hope, the bad times for the sugar industry have gone never to return, coffee cultivation is now passing through its inevitable trials and drags on a miserable existence. Low prices and violent diseases and pests have brought many a planter to ruin, and far from few are the plantations which are either abandoned and desolate or planted with another growth. In this department they are engaged in searching anxiously for a species of coffee which shall remain permanently immune against the all-devastating leaf disease and other scourges,

tracts, and even then suffers a great deal from diseases which result in the fruit blackening before it ripens and the consequent failure of the harvest.

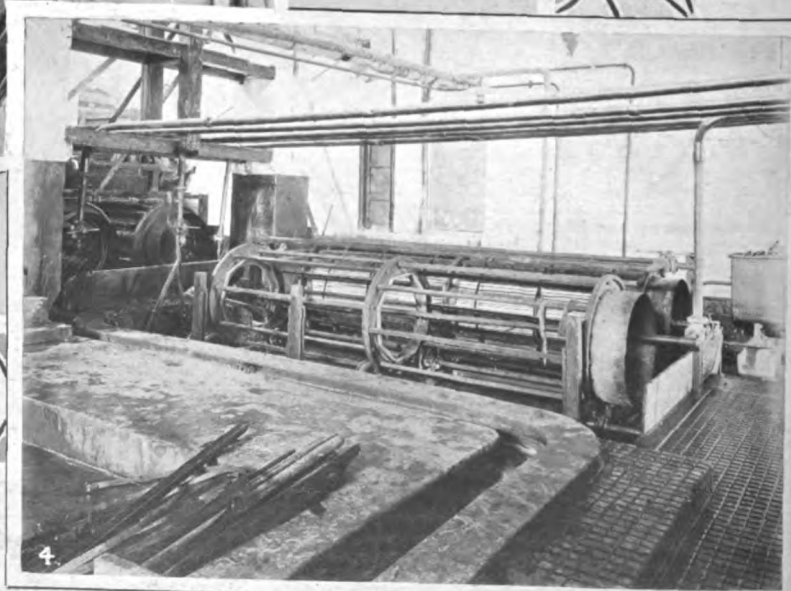
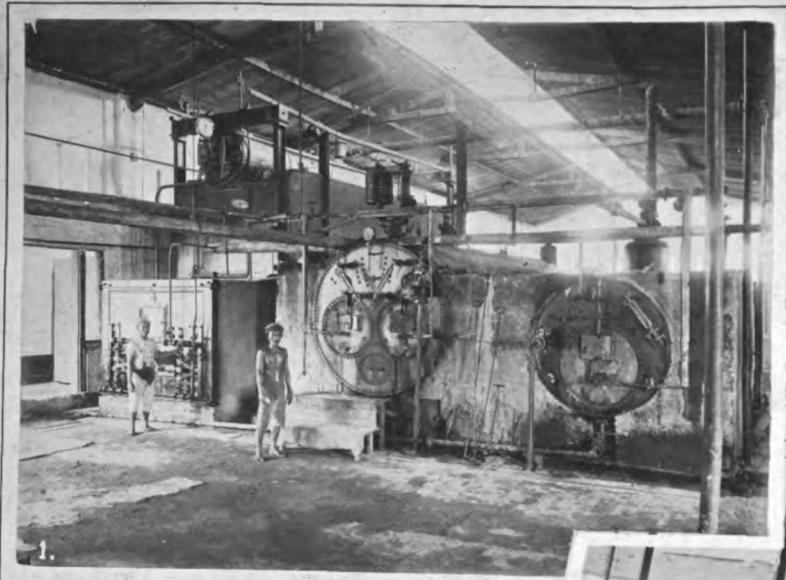
The cultivation of cloves and nutmeg is conducted only on a few plantations on a large scale. The exports of nutmeg are undergoing constant increase, but cloves appear unable to withstand permanently the competition of imports from the Spice Islands. As a minor culture alongside the principal ones, the pepper plant is found everywhere in Java. Uncertainty of the yield caused by the sakties disease and the great instability of market prices make it undesirable to turn pepper into a principal cultivation.

I have given above a brief survey of the cultivations which have long existed in Java,

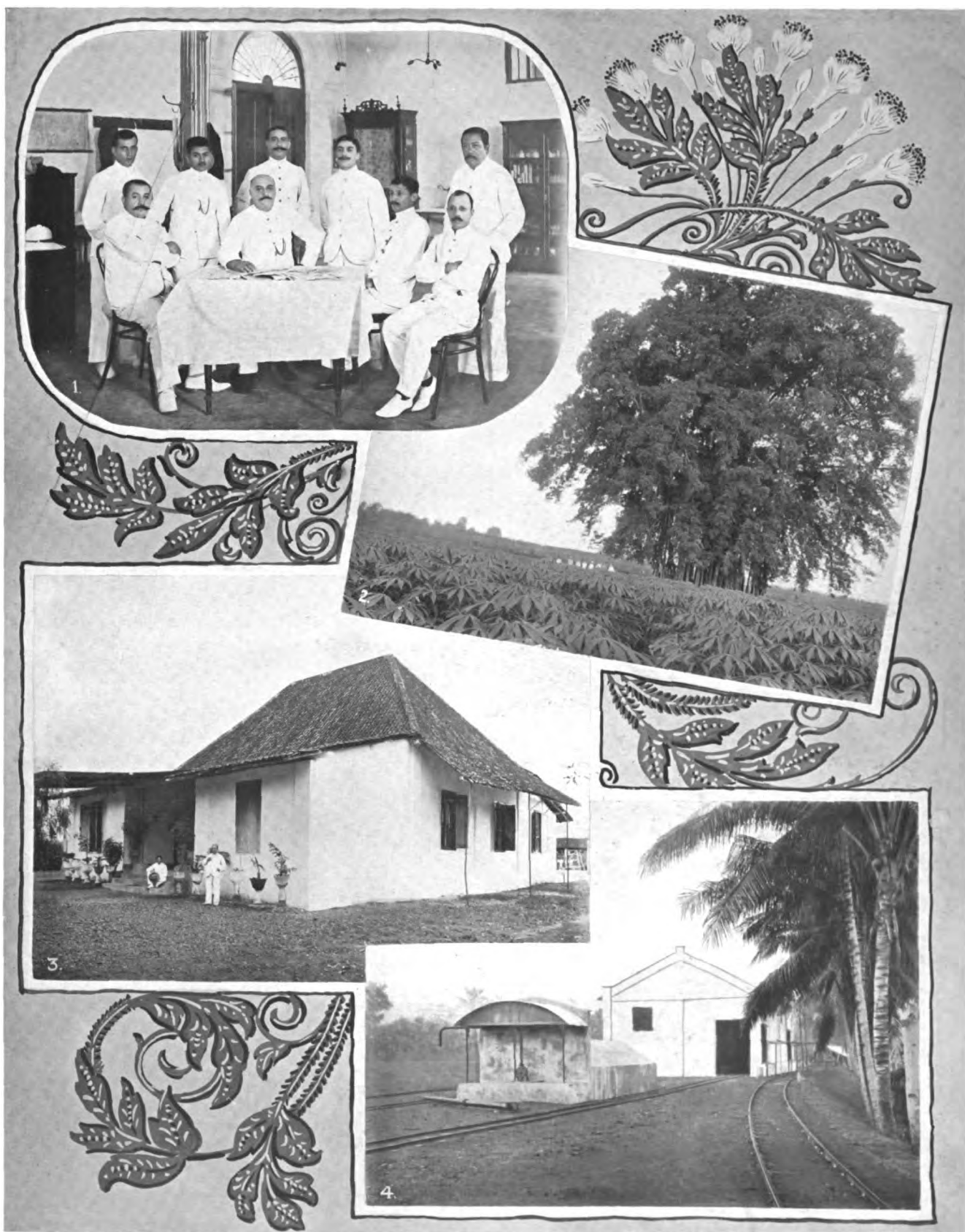
Hecca brasiliensis are examples. The Java coca is acquiring a good repute in the European market, and plantations of Manila hemp and sisalagave are continually extending. It is to be hoped that the Fibre Congress, to be held in 1910 in Sourabaya, in connection with which there will be an exhibition of everything relating to fibres, may bring about a great forward stride in the cultivation and preparation of these plants, for which, in that case, there is undoubtedly a fine future in Java.

ALGEMEEN PROEFSTATION SOCIETY, SALATIGA.

It is hard to realise how important a part science has played in the agricultural development of Java during recent years. Planters,



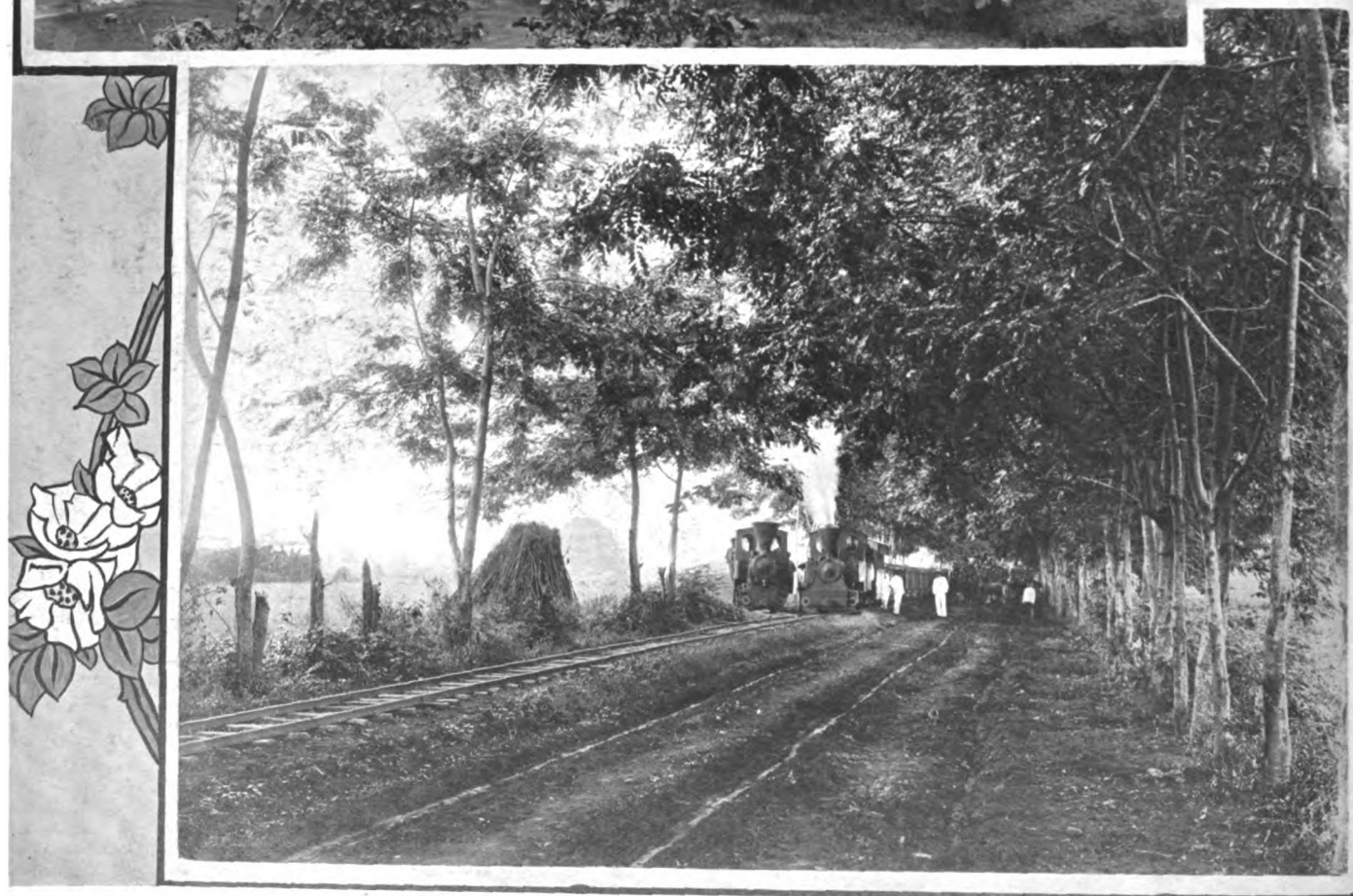
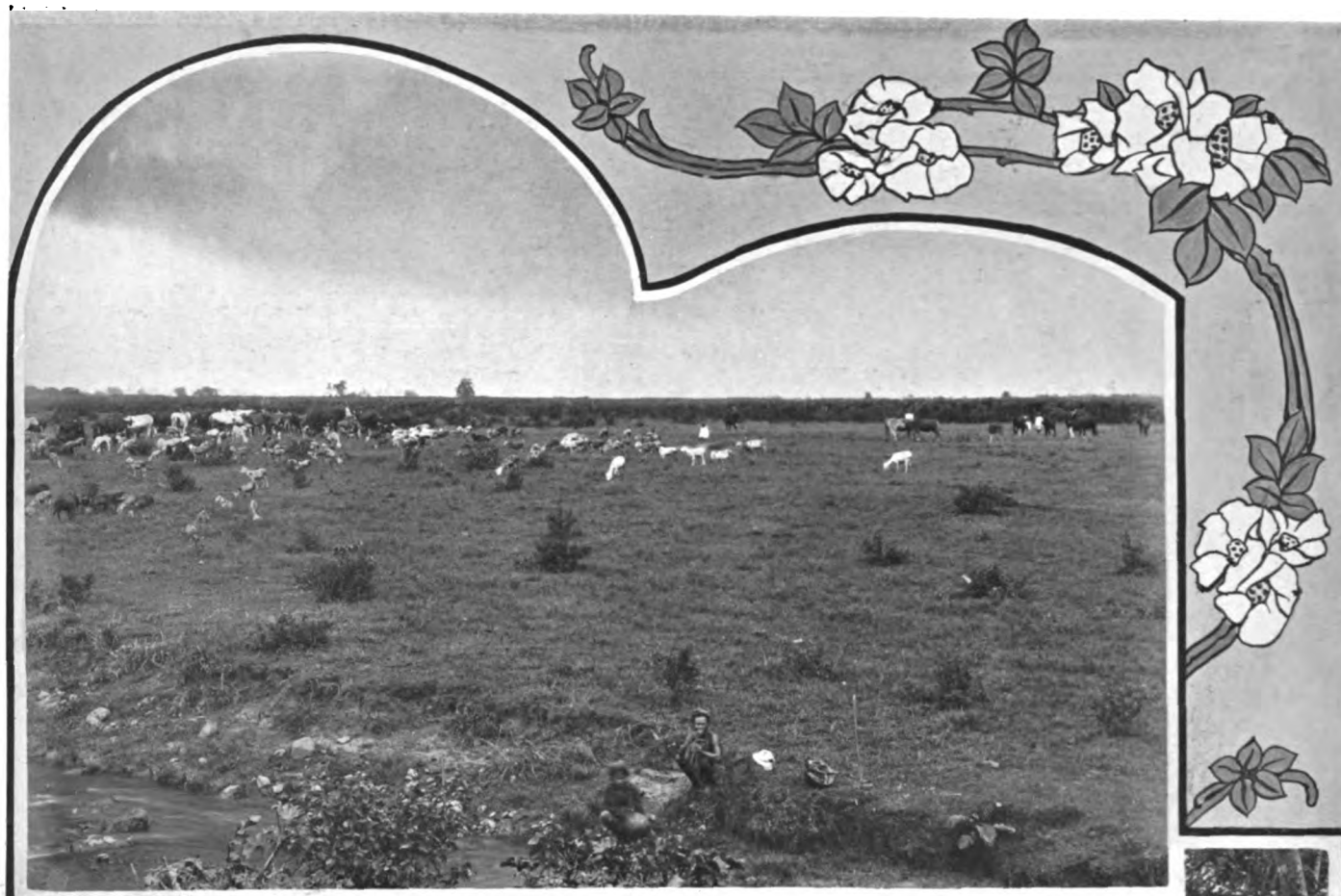
TAPIOCA FLOUR MILL, "GALOEHAN" (N. V. GALOEHAN TAPIOCA ESTATES AND MILLS, LIMITED).
 1. BOILER ROOM.
 2. CONVEYING THE CASSAVA ROOT FROM THE PLATFORM TO WASHING ROOM.
 3. SETTLING BEDS AND TRUCKS FOR DRYING FLOUR.
 4. ROOT WASHERS.



N. V. GALOEHAN TAPIOCA ESTATES AND MILLS, LIMITED.

1. FACTORY STAFF.
2. BANYAN TREE ON ONE OF THE ESTATES.

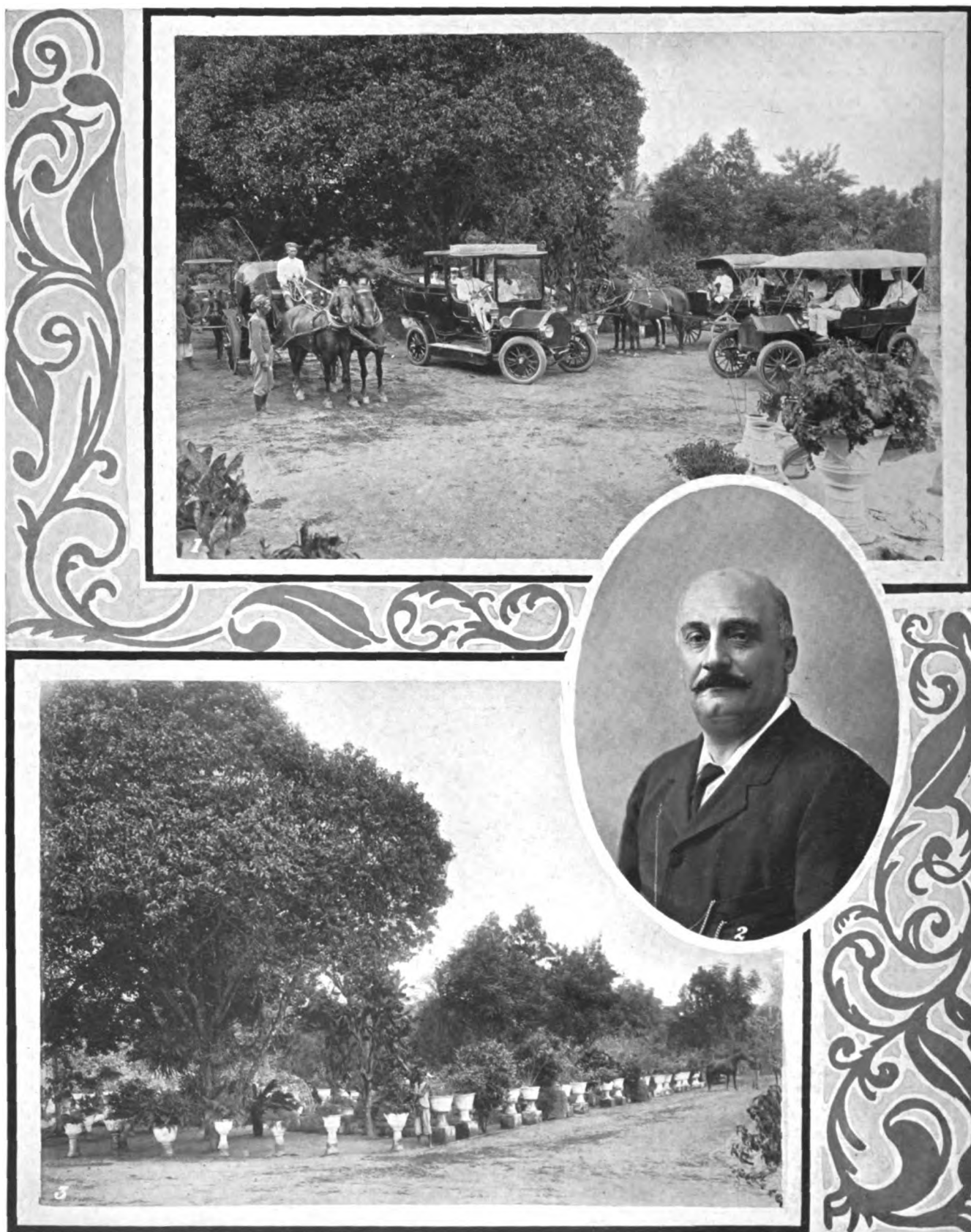
3. ADMINISTRATORS' HOUSE, KURONDALAN ESTATE.
4. PETROLEUM RESERVOIR AND GODOWN AT NGARKOWELI STATION.



GALOEHAN TAPIOCA ESTATES AND MILLS, LIMITED.

1. PART OF KOEDOGAN ESTATE.

2. LOADING TRUCKS ON KOEDOGAN ESTATE.



N. V. GALOEHAN TAPIOCA ESTATES AND MILLS, LIMITED.

1. MOTOR CARS AND CARRIAGES BELONGING TO MR. G. L. APAR.

2. G. L. APAR.

3. CORNER OF THE PRIVATE GARDEN AT GALOEHAN ESTATE.

in despair at the ravages of their crops caused by disease and blight, have called in the assistance of experts to study the local conditions and to devise some remedies, and their research work has proved of incalculable benefit to every form of cultivation. The Government Department of Agriculture has led the way in devising scientific methods for raising the standard of production, but much also has been done by private enterprise. Apart from Government activity, perhaps the most important institution aiming at the benefit of agriculturists of the Dutch East Indies generally is the Algemeen Proefstation Society of Salatiga. It is an association formed in 1905 from the combination of three small stations used for experimenting with cacao, kina, and coffee. The money required for the carrying on of the society—which now devotes its attention to the improvement of all forms of cultivation with the exception of the sugar-cane—is supplied by planters and various companies interested in agriculture, and the liberal donations which are so readily forthcoming for its support are sufficient testimony to the high opinion they have of the Society's usefulness. At the present time the Association has some one hundred and eighty members.

which eleven volumes have already been issued. The *Cultuurgids* appears in two parts, the first part, dealing with commercial economy, is published once a fortnight, while the second part, being of a technical and scientific nature, appears once a month. In the second part of the *Cultuurgids*, the scientific publications of the Algemeen Proefstation, entitled "Mededeelingen van het Algemeen Proefstation," are included, and already thirty-six of such reports have been published, containing essays on botanical, chemical, entomological or agricultural subjects.

The branch laboratories have their own staffs, and each devotes its chief attention to that particular produce which is grown most largely in the district where the station is located. For instance, experiments in kina, the cultivation of which is confined almost entirely to the Preanger Regency, are made at Bandoeng, the experiment garden being 5,500 feet above the sea-level. At Bandoeng, also, the investigations concerning the production of rubber are carried on, because three-fourths of the rubber estates in Java are situated in this district. The experiment station at Malang, which includes a special selection garden and several small experiment

two zoologists, and three agriculturists, of whom ten have graduated in their particular branch of science in some recognised university. The office work is carried on by a secretary with the assistance of two clerks. Naturally, the expenses of the Proefstation are considerable; the estimated expenditure for 1909 was £10,000.

The Society's Board of Control is composed of a Council of ten, and includes two representatives from each of the five cultures associated with the Proefstation.

N. V. GALOEHAN, TAPIOCA ESTATES AND MILLS, LTD.

IF a monument is needed to the self-reliance, energy, and enterprise of one man, a more fitting one could scarcely be found than the large and flourishing estates, factories and mills of which Mr. George Lazar Apcar is the managing director. On his arrival in Java in 1877, Mr. Apcar joined the firm of Johannes & Co., Sourabaya, as a clerk, and from the following year until 1881 he acted as their agent in Bali. Returning to Sourabaya, he became a partner in the firm of general merchants trading as Apcar & Co. Four years later he severed his connection with this enterprise, and started a photographic business at Toeloengagoeng, Kediri. The undertaking was successful, but the work proved distasteful, and he decided at the first opportunity to seek "pastures new." In 1885 he joined Mr. J. M. Lyon, of Singapore, who had recently opened a tapioca factory in Brangan. For six years, Mr. Lyon and Mr. Apcar worked hard to make it pay, but the fluctuations of the market told against them, and eventually the factory was closed. Nothing daunted, Mr. Apcar in 1894 started a rice mill and sugar factory, but the supply of paddy being very meagre, he turned his attention to experimenting with tapioca machinery. The following year, he opened his present mill, although it was, of course, on a very much smaller scale than it is now, and there were only seven acres of land under cultivation. In the first instance, water provided the motive power, but owing to the scarcity of the water supply this system was abandoned and an engine and boiler installed. Gradually the estates have been extended, until they now cover some 5,500 to 6,000 acres, while the daily output of the factory amounts to 300 piculs of No. 1 and flake, and 200 piculs of No. 2 and 3 flour.

The estates are seven in number, and are known as Kebondalen, Koetoegan, Bedali No. 1 and Bedali No. 2, Soemberdjati, Bolodewa, and Galoechan. Situated on the slopes of the Kloet—a dormant volcano—amid the most charming scenery, the estate lands, with the contrasting shades of the deep green of the banyan tree, of which some splendid specimens are dotted over the whole landscape, and the lighter and softer green of the tapioca plants, present a delightful and enchanting picture. On the Soemberdjati estate, the experiment of planting rubber trees has been tried, and at the present time 150,000 *Hevea brasiliensis* and *Ficus elastica* trees are growing at intervals of 15 feet. The progress they have made during the first year speaks well for the future development of the rubber industry in that part of the country, and in no way can the tapioca industry be affected, for the trees overtop the cassava (tapioca) plants even when the latter are full grown. The estates, which are not contiguous, are connected by a 75-centimetre gauge railway, with a total



PLOUGHING ON SOEMBERDJATI ESTATE.

During the five years the Proefstation has been in existence, its sphere of operations has been continually extending. It has five well-equipped laboratories established in various parts of the island. The Society was established at Salatiga and its chief laboratory is located there, the branch experiment stations being at Bandoeng (West Java), Klaten (Central Java) and Malang (East Java).

Besides the chief experiment station at Salatiga, there is a special laboratory for research work in connection with the cultivation of cacao. There is also a garden with an area of about forty acres where experiments are made with all tropical products for the purpose of attacking disease and plague, and of securing the best methods of manuring and working the soil. In the garden, which is some quarter of an hour's walk from the chief experiment station, have been erected a small laboratory for local work and a meteorological survey station. The chief library and museum are at Salatiga, and in addition to its other activities the Algemeen Proefstation publishes a periodical entitled the *Cultuurgids*, of

gardens 1,800 feet above sea-level, is the centre of the Java coffee-growing district, while the Klaten branch is very conveniently situated in the heart of the tobacco district of Soerakarta and Djocjakarta. Five minutes' walk from the laboratory at Klaten is a special selection garden formed with the idea of improving the Vorstenland tobacco.

The entire administrative work of the Society is concentrated at the Algemeen Proefstation, which itself is under the charge of a director, assisted by a chief of the division of chemistry and a chief of the division of biology, all of whom regularly inspect the branch stations. The present director, Dr. F. W. T. Hunger was, from 1899 to 1904, Scientific Assistant at "s Lands Plantentuin" of Buitenzorg, and from 1904 to 1906 Lecturer upon Economical Botany at the University of Utrecht, Holland. In the latter year he succeeded Dr. L. Zehntner, at the Algemeen Proefstation, Salatiga. The staff comprises eighteen persons, nine of whom serve at the chief experiment station and nine at the various branches. The Assistants include six botanists, four chemists,

length of 37 kilometres. The rolling stock consists of 3 locomotives and 57 trucks, with an average carrying capacity of 5,000 kilos each, and 2 residue tanks for petroleum. The factory is also connected with the Government railway station, Ngariloeweh, by a 75-centimetre gauge railway used for transporting flour, flake, &c. All the estates are in telephonic communication one with the other, and electric light, generated by 2 dynamos of 130 ampères each, has been installed in the residences of the managers and employés.

The factory is an immense pile of buildings, comprising boiler room, in which are 4 boilers, all heated by petroleum residue (crude waste petroleum); engine room, containing two Ruston & Proctor engines of 55 and 66 horse-power respectively; filter

performed. All the machinery used in the factory is of English make.

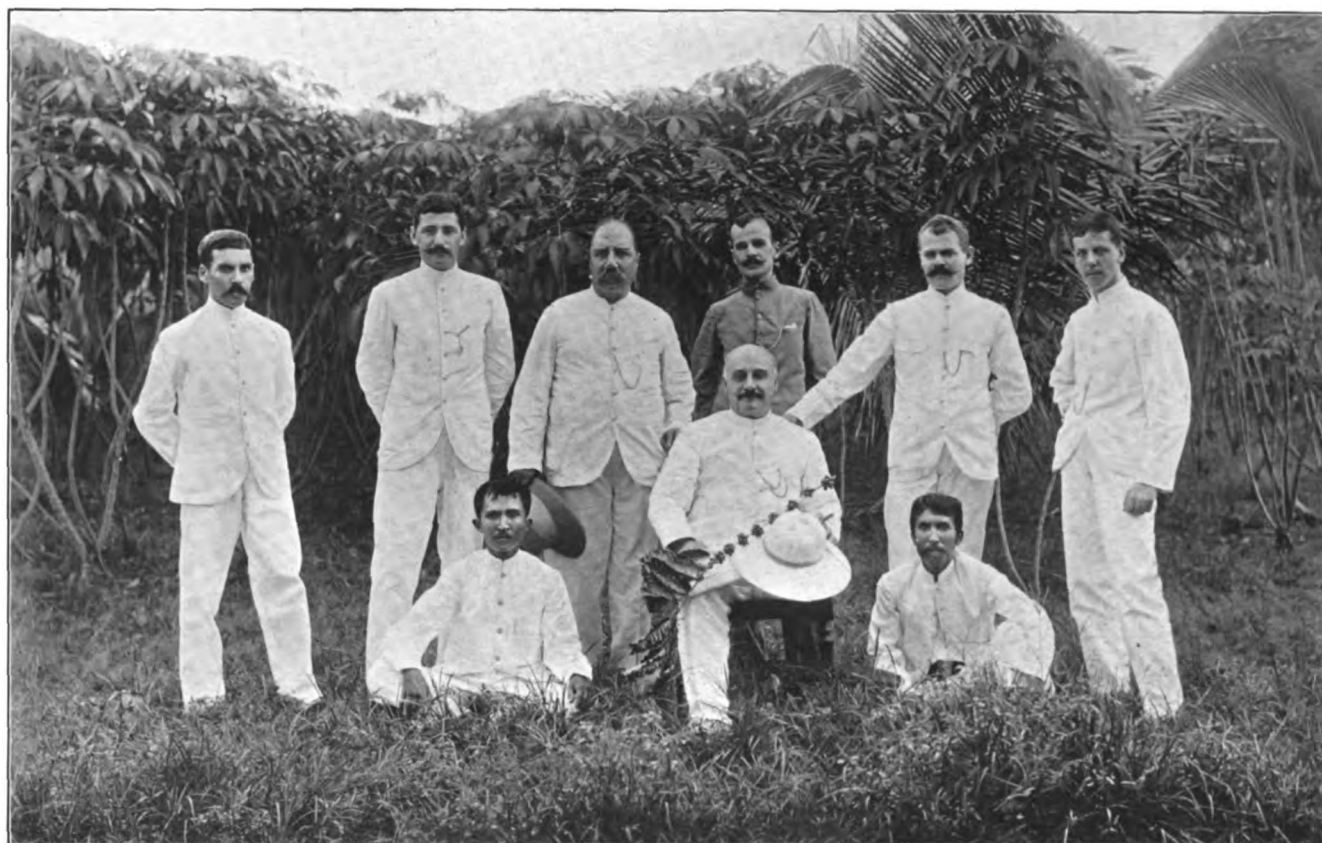
The success which, almost from the first, attended Mr. Apcar's efforts in cassava growing, and more particularly in its manufacture into flour, has been the result of unflagging energy and ability. Great credit is due to him for having perfected, without any real technical knowledge of engineering, his processes of manufacture, until the flour from his factories, owing to the excellence of its quality, obtained a ready sale in England. The entire output is now invariably purchased each year before even the cassava is planted.

At the end of last year (1908) the business was formed into a limited liability company, under the name of N. V. Galoehan, Tapioca Estates and Mills, Ltd., with a

of the Bolodewa Estate, Mr. A. Jordan; assistant administrator, Mr. P. Phillips; native administrator of the Galoehan Estate, Mr. Kasman; chief engineer, Mr. E. Mesrope; second engineer, Mr. N. Pereira.

KLATTENSCHÉ CULTUUR MAATSCHAPPIJ.

THE Klaten Culture Company, which has its headquarters at The Hague and a capital of Fl. 1,600,000, was founded on January 24, 1887, with the object of acquiring and working the agricultural estates, Gondang-Winangoen, and Djétis, Papringan-Kebon Aroem, and Gajampit. Their cultivated area at this time comprised 459'02 bouws of sugar-cane, 788'65 bouws of indigo, and 65 bouws of tobacco, making a total of 1,312'67, from which the amount of produce obtained was:—



ADMINISTRATORS OF THE VARIOUS ESTATES BELONGING TO THE N. V. GALOEHAN TAPIOCA ESTATES AND MILLS, LIMITED, WITH THE MANAGING DIRECTOR, G. L. APCAR, IN THE CENTRE.

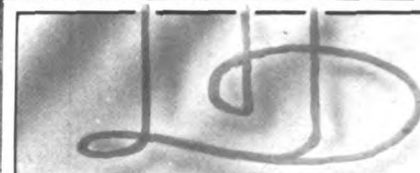
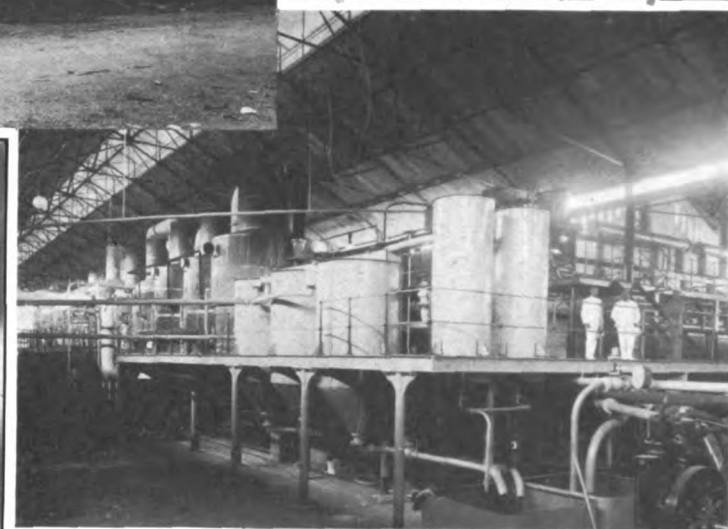
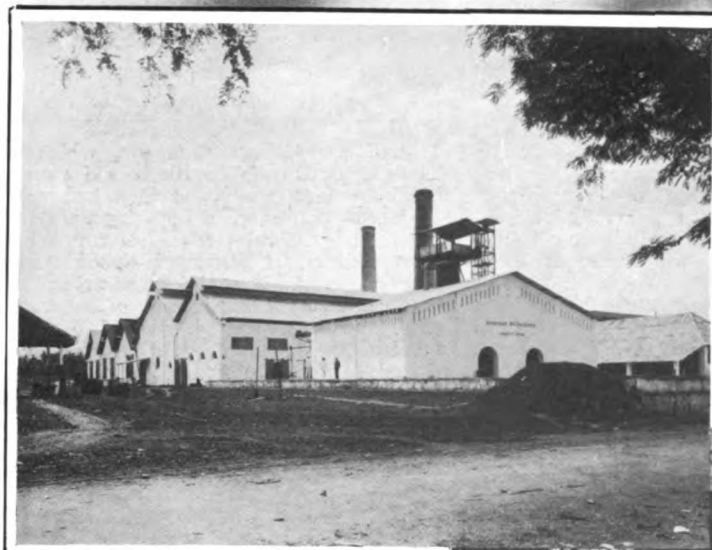
room with 5 washing cylinders; shed with settling beds; machine room, containing a fine lathe 23 feet in length and all the necessary repairing appliances; and drying-room, which is fitted with an apparatus of Mr. Apcar's own invention. From this latter room the flour is automatically carried to and passed through the sifting machine, from which it falls into gunny bags and is then ready for export. A very interesting feature to note is that from the time the root leaves the platform, upon which it is discharged from the trucks and from which it is conveyed to the first washing cylinder, it is not touched by hand, the whole of the process of manufacture being automatically

performed. The capital of one million guilders. The personnel of the Company is as follows:—Managing director, Mr. G. L. Apcar; chief accountant, Mr. W. C. Weskin; assistant accountant, Mr. H. A. Apcar; assistant book-keeper, Mr. Alex Apcar; flake department manager, Mr. E. L. Elisha; superintendent of plantations, Mr. M. Johannes; administrator of the Kebondalene Estate, Mr. M. C. Galstaun; assistant administrator, Mr. Ruben Johannes; administrator of the Koetoeagan Estate, Mr. Malcolm Matthews; assistant administrator, Mr. T. Jordan; administrator of Bedali No. 1 Estate, Mr. A. Abraham; administrator of Bedali No. 2 and Soemberdjati Estates, Mr. Mack Matthews; administrator

36,714'4 piculs of sugar; 65,532 lb. (Amsterdam) of indigo, and 88,754 units of tobacco. In the course of time the Company purchased the estates of Gantiwarno, Goemoel-Djogonalan, Tempel, Mlessen, Kebon-Agoong, and five-sixths of the Serogedoog estate. Gondang-Winangoen and Djétis, Papringan-Kebon Aroem, Gajampit, Gantiwarno, and Goemoel-Djogonalan are in the residency of Soerakarta, while the remainder are in the residency of Djocjakarta. All, however, are situated on the south and south-eastern slopes of Mount Merapi.

Following is a short description of each estate:—

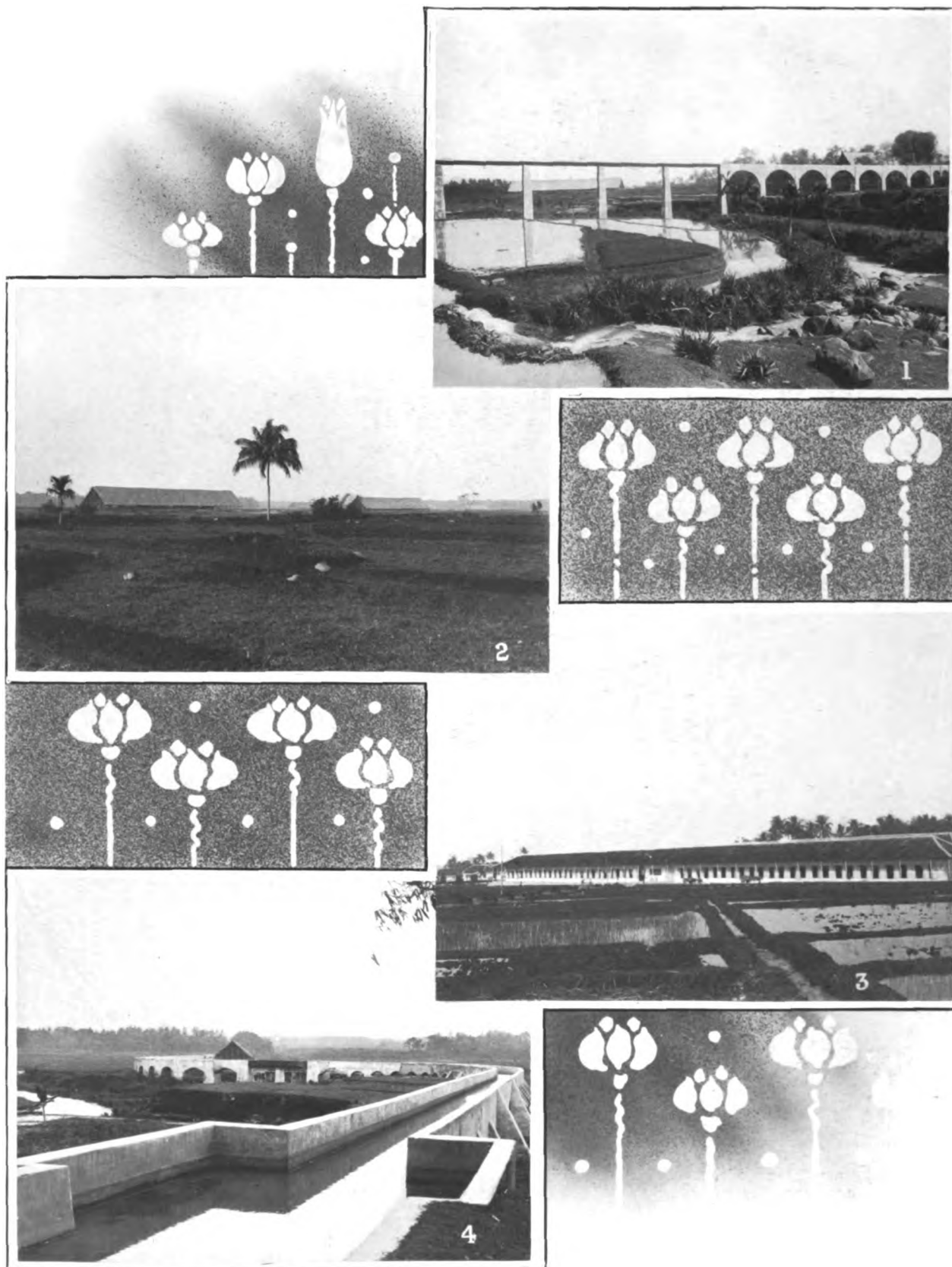
Gondang-Winangoen and Djétis is situated



"GONDANG WINANGOEN" SUGAR ESTATE.
(Klattensche Cultuur Maatschappij).

THE FACTORY.
CORNER OF THE ESTATE.

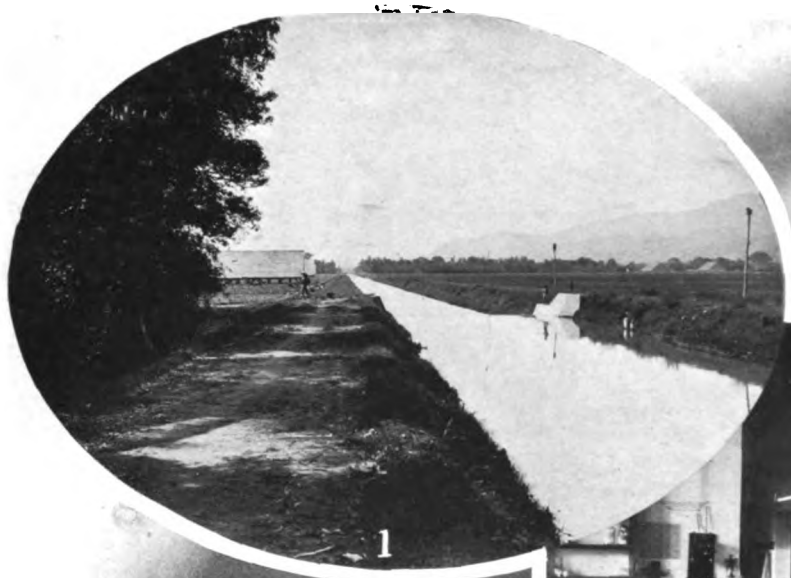
INTERIOR OF FACTORY.
MANAGER'S RESIDENCE.



KLATTENSCH E CULTUUR MAATSCHAPPIJ.

1. AQUEDUCT "SOESOEAN" AT KERONAGONG.
2. VIEW OF ESTATE, WITH DRYING HOUSES AT MEESSEN.

3. TOBACCO DRYING AND PACKING HOUSES AT MEESSEN.
4. AQUEDUCT "KALI POUH" AT KERONAGONG.



1



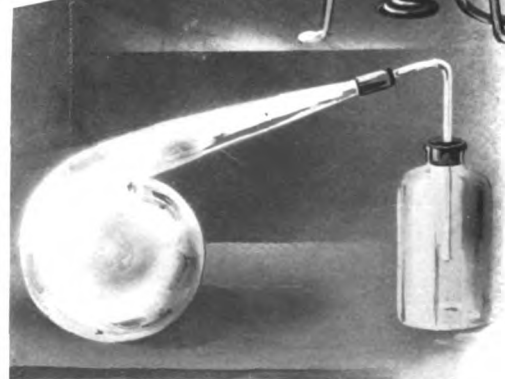
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3



4



: KLATTENSCHCE CULTUUR MAATSCHAPPIJ.

1. WATERWORKS AT GANTIWARNO.
2. LABORATORY AT THE SUGAR EXPERIMENTAL STATION, KLATTEN.
3. DRYING HOUSE AND MANAGER'S RESIDENCE, GUAMPRIJ.
4. MANAGER'S HOUSE, KEBON-AROEN.

in the division and regency of Klaten, in the districts of Prambanan and Klaten, and near the Srowot railway station. It has an area, including villages (desahs), roads, &c., of about 2,725 bouws, and is devoted to the cultivation of sugar-cane only, the area planted for 1000 being 745.5 bouws. The factory is situated some two miles north-east of the railway station, on the road to the town of Djocjakarta. Sugar of a superior quality is manufactured by the double carbonatation system, which is exported under the trade mark G.W. Mr. G. Th. E. R. Arnold is the manager.

Papringan-Kebon Aroem is 1,677 bouws in extent, and is situated in the division, regency, and district of Klaten, two and a half miles north-east of the Klaten railway station, and a mile north of the road to Djocjakarta. Tobacco is the chief product of the estate, but cotton (kapok), cacao, and rubber are also grown. During the present year (1000) 413½ bouws have been planted with tobacco, and 128½ with kapok, cacao, and rubber. The trade marks under which the tobacco is shipped are:—"Gathak," for the under-leaf; "Papringan," for the middle leaf; and "K.A." for the top leaf; while, the

and "Gempol M" for the middle leaf; and "Grogolan T" and "Gempol T" for the top leaf. The manager is Mr. G. Whitlau.

Goemoel Djogonalan has an area of 1,615 bouws, of which during the present year some 473 have been planted with tobacco. It is situated in the division and regency of Klaten, districts of Prambanan and Koeto, about three and a half miles north-west of the Srowot railway station, and lies at an elevation of 800 feet above sea-level. The leaf is shipped under the following trade marks:—"Djogonalan V" for the under-leaf; "Djogonalan M" for the middle leaf; and "Djogonalan T" for the top leaf. Mr. Th. M. E. Havelaar is the manager.

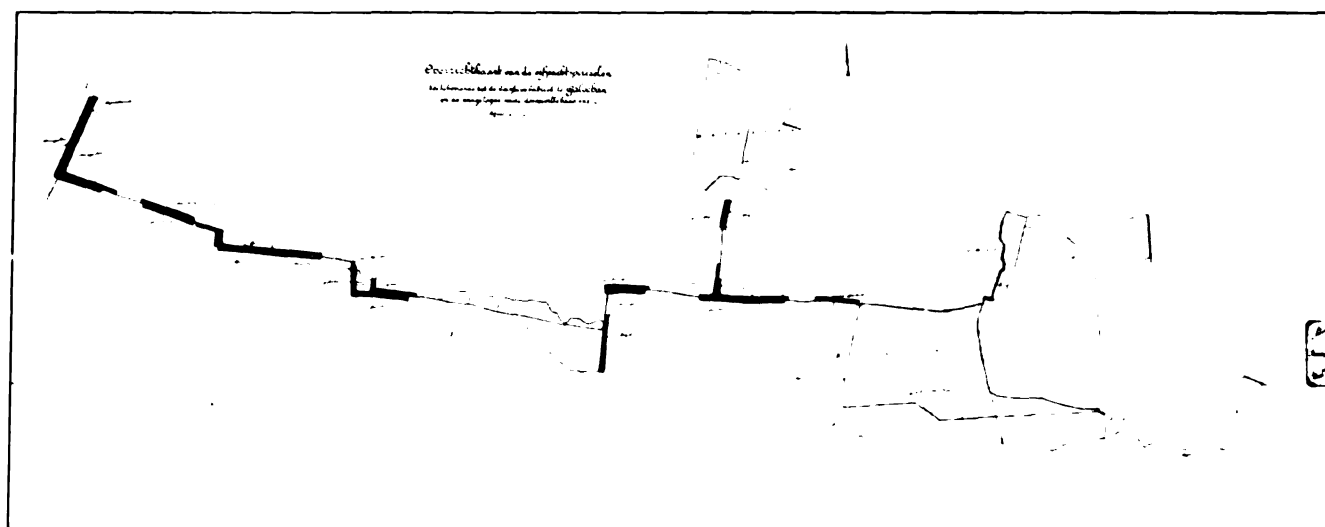
Tempel is situated in the division of Mataram, district of Klegoeng, 12 miles north-west of the Djocjakarta railway station, and half a mile from the Tempel tram station. It covers an area of 2,202 bouws, of which 471.3 have been planted with tobacco during the present year (1000). The product is shipped under the following trade marks:—"Tempel V" for the under-leaf; "Tempel M" for the middle leaf; and "Tempel T" for the top leaf. Mr. J. A. Dezentije Hamming is the manager.

banan. Tobacco, sugar, cotton and fibre are cultivated. The area consists of 4,800 bouws, of which during the present year 427.80 have been planted with sugar-cane; 24 with "bibit" (the tops of the sugar-cane); 303.2 with tobacco; 147.22 with kapok, and 50 with fibre. The trade marks for the tobacco are:—"S.G. V" for the under-leaf; "S.G. M" for the middle-leaf; and "S.G. T" for the top leaf. Mr. J. Struben carries out the duties of manager.

The control and management of the Company is in the hands of a board, consisting of Jonkheer H. L. van der Wyck (director), Messrs. C. T. F. Thurkow (president), M. Paul Vente, and R. F. H. Mosselmans. The representative of the Company in Netherlands India is Jonkheer H. C. van der Wyck, while Mr. W. A. Terwogt is the general manager of the tobacco estates.

CULTUUR MAATSCHAPPIJ "LAWOE."

THE Cultuur Maatschappij "Lawoe." was founded on September 30, 1893, with a capital of Fl.600,000, which amount was afterwards reduced to Fl.300,000, and increased again in 1895 to Fl.883,000 by the



PLAN OF THE PLANTATIONS OF THE N. V. GALOEHAN TAPIOCA ESTATES AND MILLS, LIMITED.

trade mark for the cotton (kapok) and cacao is "Papringan." Mr. F. A. G. L. Hofstede carries out the duties of manager.

Gajamprit covers an area of 1,525 bouws, and is situated in the division, regency, and district of Klaten, and is one and a half miles distant from the Klaten railway station. Tobacco only is cultivated, 448.19 bouws having been planted during 1000. It is exported under the following trade marks:—"Gorgol," for the under-leaf; "Gajamprit," for the middle leaf; and "M.B." for the top leaf. The manager is Mr. F. Franssen.

Gantiwarno is situated in the division of Klaten, districts of Gesikan, Prambanan, and Soemapoera, about half a mile east of the Srowot station, and 400 feet above sea-level. It is 1,007 bouws in extent, 472 of which have been planted with tobacco during the present year (1000) and 50 bouws with rubber. To prevent flooding of the lands, some 40 kilometres of dikes have been raised and are kept in good condition. The following trade marks are used in the export of the tobacco:—"Grogolan V" and "Gempol V" for the under-leaf; "Grogolan M"

Mlessen is 1,780 bouws in extent, and is situated in the regency of Sleman, district of Klegoeng, 14 miles from the Djocjakarta railway station, and three miles from the Tempel tram station. During the present year 442 bouws have been planted with tobacco; and the following trade marks are used in its export:—"Mlessen V" for the under-leaf; "Mlessen M" for the middle leaf; and "Mlessen T" for the top leaf. Mr. D. Roessingh van Iterson is the manager.

Kebon-Agoong covers an area of 2,540 bouws, of which 354 bouws were cultivated in 1000. The estate is situated in the Mataram division, in the district of Sleman, 10 miles north-east of the Sedajoe railway station, and 16 miles from the town of Djocjakarta. The tobacco is placed on the markets under the following trade marks:—"Prapak V" for the under-leaf; "Prapak M" for the middle leaf; "Prapak T" for the top leaf. The manager is Mr. W. H. Soesman.

Sorogedooq five-sixths only of which belong to the Klattensche Cultuur Maatschappij is situated in the division of Mataram, regency of Kalasan, and district of Pram-

issue of 583,000 preference shares. Its head offices are in Amsterdam, Holland. The director of the Company is Jonkheer H. L. van der Wyck, and the Company's representative in Java, Jonkheer H. C. van der Wyck. The members of the board are J. P. Portielje, H. M. E. Hechtermans, and M. Paul Vente.

The two estates owned by the Company—Modjo and Kedawoong—are situated at the foot of Mount Lawoe in the residency of Soerakarta, division, regency, and district of Sragen, sub-district of Karanganyar, and near the Sragen station of the Soerakarta-Soerabaya Railway, at an altitude of 300 feet above sea-level. The former estate is entirely devoted to the cultivation of sugar-cane, while the latter produces rice, coffee, cotton, cacao, rubber, &c. The two estates, including villages, roads and uncultivated land, cover an area of 13,000 bouws.

In 1895 Modjo produced 38,460 piculs of sugar from 600 bouws of cultivated land, and Kedawoong produced about 10 piculs of coffee. In 1908 Modjo accounted for 175,412 piculs of sugar from 1,250 bouws,



CULTUUR MAATSCHAPPIJ "LAWOE."

1. GENERAL VIEW OF MODJO SUGAR FACTORY.
2. CANE FIELDS AT MODJO.

3. YOUNG RUBBER PLANTATION, KEDAWCANG.
4. FRONT VIEW OF FACTORY.

of which 904 were cultivated by the Company, the produce of the remaining 352 having been purchased; while Kedawoong produced 752 piculs of paddy (unhusked rice), 409 piculs of coffee, 839 piculs of cotton in pod, and 2,002 piculs of fibre.

At the present time there are 1,289 bouws under cultivation on the Modjo Estate, the produce of 864 of which is owned by the Company; the cane from the remaining 425 bouws will be bought in. In the factory, which has a capacity of 14,000 piculs a day, the sulphuric acid method of manufacture is adopted, Muscovado sugar being the only variety dealt with. The trade mark for the produce of Modjo Estate is M.O., while the letters K.D.W. are well known in connection with the produce of Kedawoong. The manager for both estates is Mr. K. J. Staverman.

CULTUUR MAATSCHAPPIJ "DELANGGOE."

THE Cultuur Maatschappij "Delanggoe," with its head office at The Hague, Holland, was

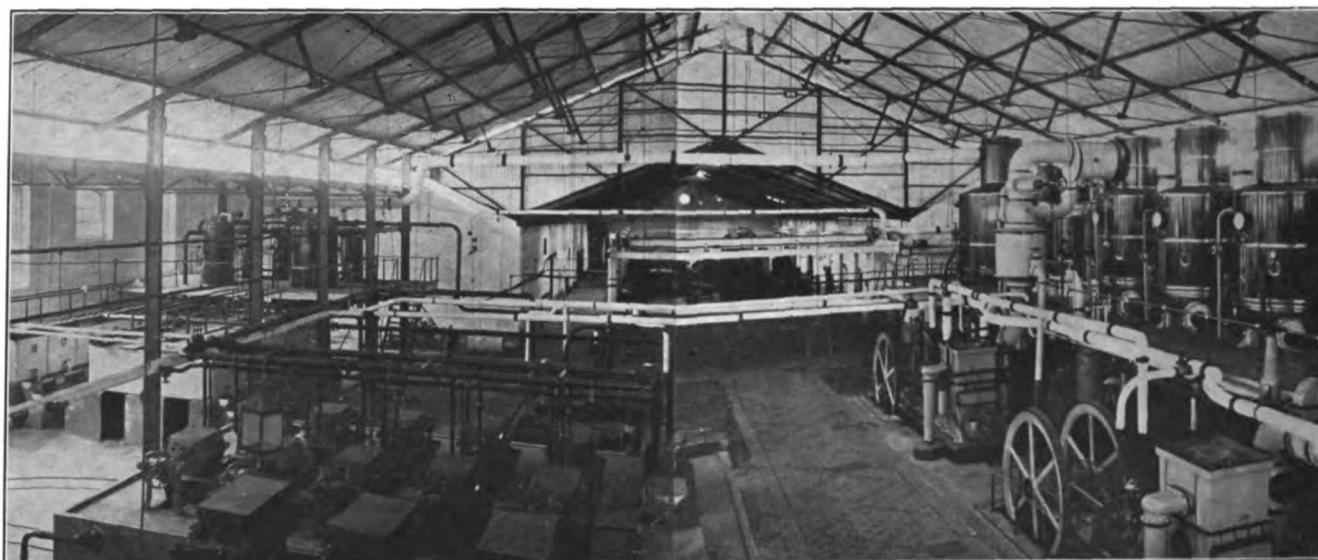
are being cultivated, an area which will, it is hoped, be increased to 932 bouws next season. The factory on the estate has a capacity of 11,000 piculs a day, and produces only the best quality of white crystallised sugar—the "Boot" method of manufacture being employed. The sugar is exported under the trade mark D.E. The head administrator is Jonkheer J. C. van Holthe, and the manager Mr. A. G. Boeseken.

The Polan-Ardjo Estate, with an area, including villages and roads, of 487 bouws, is situated on the eastern slope of Mount Merapi, about 650 feet above sea-level, in the residency of Soerakarta, division and regency of Klaten, district of Ponggok, and three and a half miles west of the Delanggoe railway station. Tobacco only is cultivated, and in 1908 the harvest amounted to 336,358 lb. Dutch (2 lb.=one kilogramme), the area under cultivation being 150 bouws. It is the intention of the proprietors to increase this area to 175 bouws during 1909. The trade marks used in the export of the tobacco grown on the estate are: Polan/V for the

harvests were very satisfactory the income was far below the estimate, owing to the fall in the price of Liberia coffee from 60 guilders to 20 guilders per picul. It was therefore decided to plant kapok (cotton), and cacao in addition to coffee, and the results of this venture have encouraged the directors to enlarge the plantation and to experiment with rubber on the soil unsuitable to the cultivation of coffee, kapok, or cacao, and to plant Robusta coffee as well.

Some 450 bouws of land, irrigated by a specially constructed channel, eight miles in length, are planted with rice by natives who obtain two harvests a year from it, and, with the exception of a few plots reserved for special purposes, all the property is now under cultivation. About 600 bouws are planted with Liberia coffee only; 600 bouws with Liberia and Robusta coffee; 800 bouws with cacao; 1,200 bouws with cacao, kapok, and coffee; 450 bouws with rice; and 150 bouws with rubber.

The financial results of the Company's undertakings are very satisfactory. Dividends



GENERAL VIEW OF INTERIOR OF SUGAR FACTORY "MODJO," SOERAKARTA.

(Cultuur Maatschappij "Lawoe.")

founded on October 24, 1895, with a capital of Fl. 500,000, which since 1905 has been increased to Fl. 750,000. The director of the Company is Jonkheer H. L. van der Wyck, and the representative in Netherlands India Jonkheer H. C. van der Wyck. The members of the board are Messrs. C. T. F. Thurkow (president), M. Paul Voute, and R. F. H. Mosselmans.

In addition to the Delanggoe Estate the Company now own the estates of Polan-Ardjo and Ngranjoe. The Delanggoe, including villages and roads, has an area of 3,023 bouws, and is devoted to the cultivation of sugar-cane. It is situated on the eastern slope of Mount Merapi, in the residency of Soerakarta, division and regency of Klaten, district of Delanggoe, and a mile west of the Delanggoe Station on the Djocjakarta-Sourabaya railway. From the 505 bouws under cultivation in 1895 some 50,048 piculs of sugar were obtained, while last year 925 bouws, which included a portion of Ngranjoe Estate, produced 107,316 piculs. During the present year (1909) 914 bouws

under-leaf (voetblad); Polan M, for the middle leaf (middenblad); and Polan T for the top leaf (topblad). The manager of the Polan-Ardjo Estate is Jonkheer J. C. van Holthe.

CULTUUR MAATSCHAPPIJ "SILOEWOK-SAWANGAN."

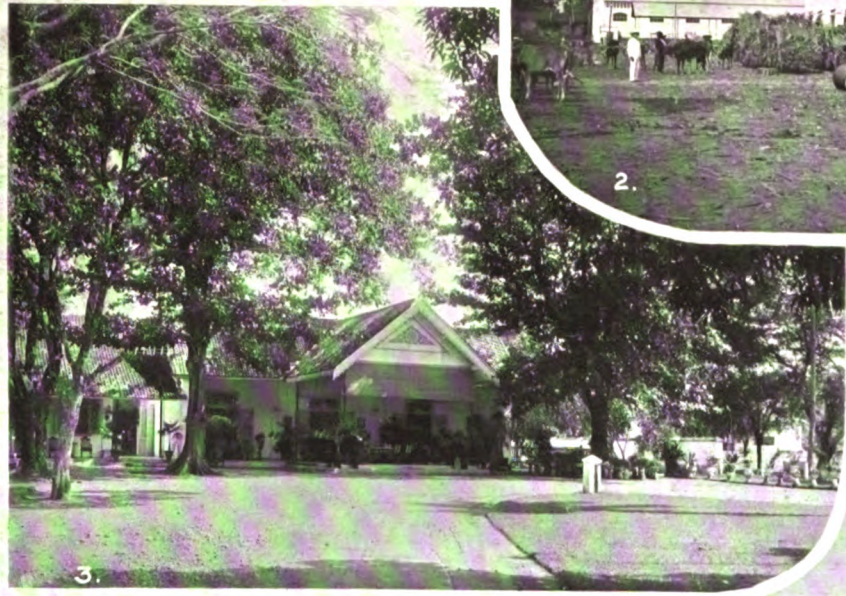
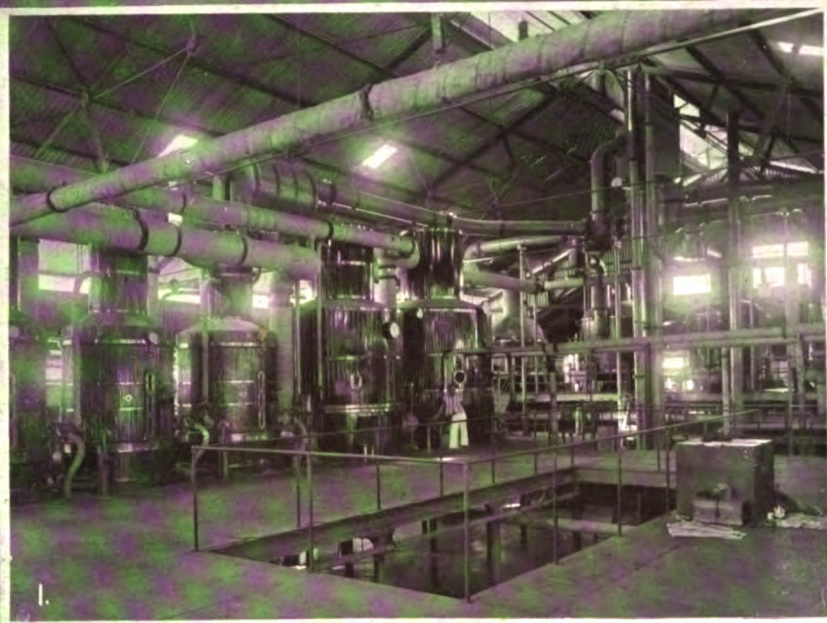
THIS Company was founded in 1893 with a capital of 275,000 guilders, under the directorship of Messrs. McNeill & Co., of Semarang, for the exploitation of some 3,000 bouws of excellent land covered with virgin forest, which had been leased from the Government in the residency of Pekalongan. The property, known as Segan, is well situated on the grand trunk road to Semarang, five miles from the Weleri station of the Semarang-Cheribon Steam Tram Company, whose line passes through the plantations. It is in the centre of a very thickly populated country and some 150 feet above sea-level. In 1893 300 bouws were cleared of timber and planted with Liberia coffee. This area was gradually extended to 600 bouws, but although the

have been paid amounting to 9½ per cent. in 1906, 27 per cent. in 1907, and 57 per cent. in 1908; and as only half the plantations produce anything as yet, the Company's prospects are exceedingly bright.

ASSINAN ESTATE.

THE average yearly production of the Assinan Estate is 1,100 piculs of cocoa, 100 piculs of pepper, 180 piculs of coffee (mostly Liberian), and 600 piculs of nutmegs. Within the last year, rubber has also been planted, some 600 bouws of land being now under cultivation. The estate is situated in the Ambarawa district of the residency of Semarang, and was purchased by the Government from the Sultan of Soerakarta in 1902. The ground, however, is leased for a term of 120 years, of which there are still 70 years to run.

The financial administration and direction of the estate are in the hands of Messrs. McNeill & Co., Semarang. The manager is Mr. A. C. J. van der Sloot.



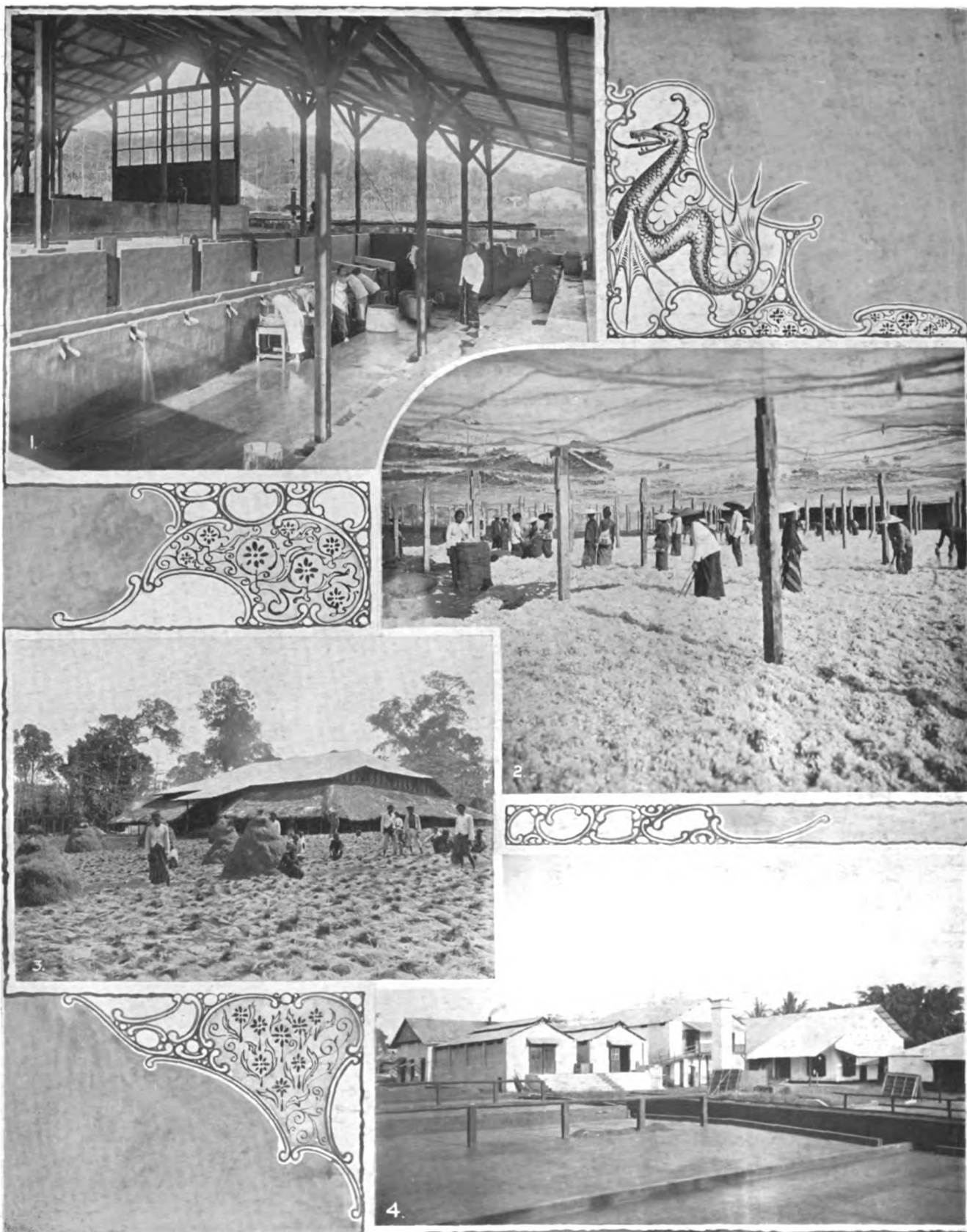
CULTUUR MAATSCHAPPIJ "DELANGGOE."

1. INTERIOR OF FACTORY.

2. SUGAR FACTORY AT DELANGGOE.

3. ADMINISTRATOR'S RESIDENCE, DELANGGOE.

4. "POLAN-ARDJO" TOBACCO ESTATE.



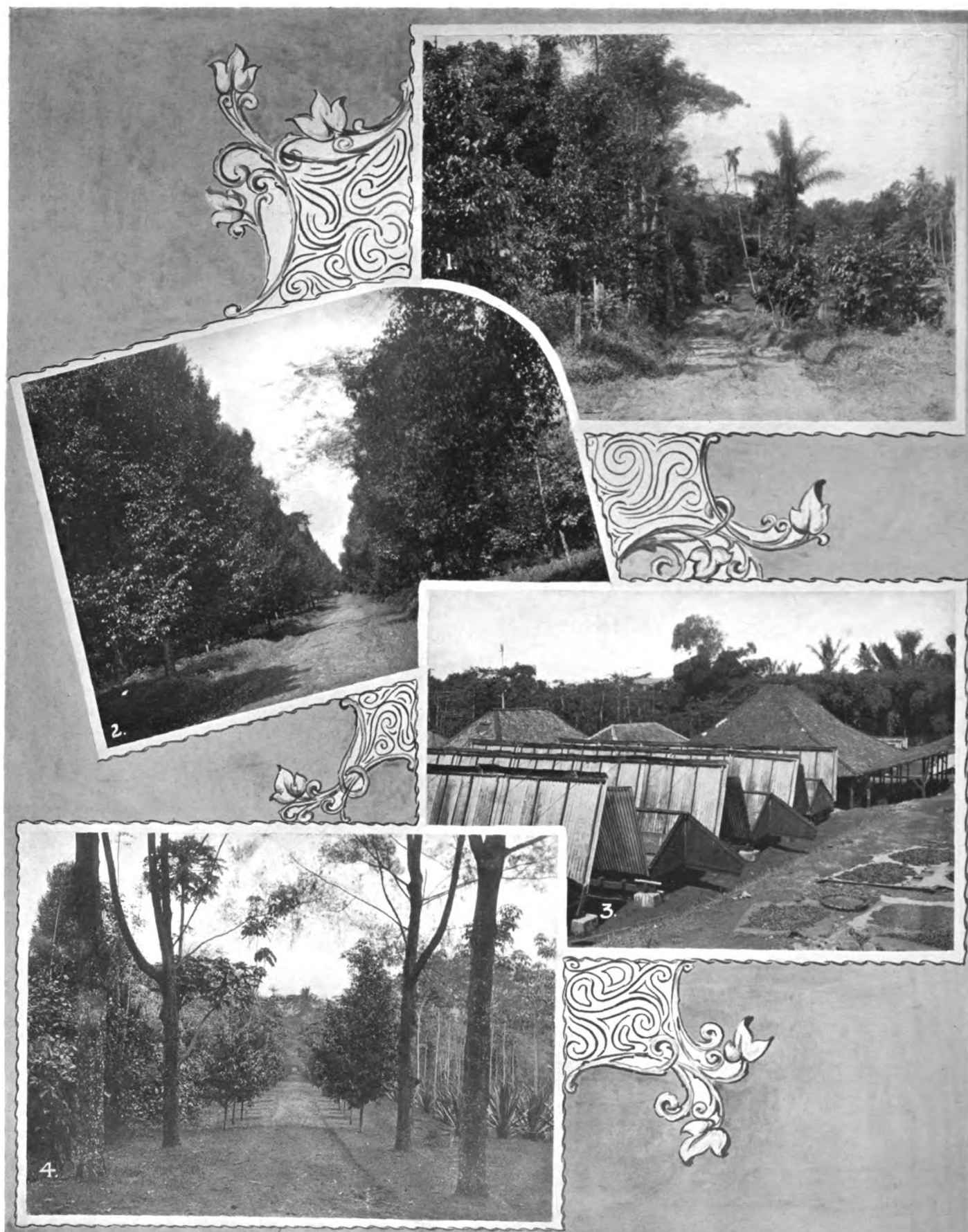
CULTUUR MAATSCHAPPIJ SILOEWOK-SAWANGAN, PLELLEN-WELERI, JAVA.

1. WASHING CACAO.

2. DRYING COTTON.

3. RICE STORES.

4. COFFEE PACKING AND DRYING HOUSE.



ASSINAN ESTATE, AMBARAWA.

1, 2, and 4. VIEWS OF THE ESTATE.

3. DRYING COCOA.



PANORAMA OF PADANG, SHOWING RIVER.

THE RUBBER INDUSTRY.



THE rise of the rubber industry is undoubtedly one of the wonders of the present age. Twenty years ago a rubber estate was practically unheard of; to-day not a week passes without the formation of one or more companies whose sole object is the cultivation of rubber for commercial purposes. For a long time—in fact almost within the past year—speculations in rubber were looked at askance. The London Stock Exchange recognised but few such companies, for even clear-sighted stockbrokers failed to see the possibilities of the industry. There was, perhaps, some excuse for them, although they now regard that as poor consolation when they see the dividends paid to original holders of stock they declined to touch.

In those early days—not so very long ago—rubber was regarded as the chance product of a weed. Its supply was dependent upon ignorant natives and a handful of daring individuals who visited the pestilential, fever-haunted swamps to collect the stuff from the natives. Very little rubber was imported into Europe. The bicycle had just got beyond the experimental stage, the motor-car was unknown, and horse vehicles rumbled along on iron-shod wheels. Then came both demand and supply, and it is indeed difficult to say which came first. Almost simultaneously with the increasing use of rubber the cultivation of *Hevea brasiliensis* was attempted in the Middle East—in Ceylon and the Federated Malay States—not, be it noted, because the planters there were attracted by the possibilities of making great profits, but because, the mainstay having failed them, they must attempt to build up another.

The development of the rubber industry in the Middle East is one of the economic romances of the last century. The honour of the achievement goes to an Englishman, Mr. H. A. Wickham, who in the 'sixties was engaged in the rubber forests of South America. Even as far back as that, Mr. Wickham had ideas of cultivating rubber, but, as he himself puts it in his interesting book, "On the Plantation, Cultivation, and Curing of Para Indian Rubber," he was as one before his time—as one crying in the wilderness. The idea of cultivating a "jungle forest tree" was looked upon as nothing less than visionary. But Wickham knew. He secured the support of Sir Joseph Hooker, of Kew

Gardens, who in time interested Sir Clements Markham, of the India Office. The result was that the Indian Government commissioned Mr. Wickham to introduce the "tree which produced the true Para rubber of commerce into India." He was left quite free, or, as he puts it, "a straight offer to do it; pay to follow result."

At that time no definite plan had occurred to Mr. Wickham as to how to achieve such a feat, apparently. He returned to South America, where he started planting near Santarem. One day he was astonished to hear of the arrival on the Amazon of a fully-equipped ocean liner. It was the *Amazonas*, Captain Murray, the first of the new Inman Line of steamships. After entertaining the neighbouring planters on board, the vessel proceeded to the Upper Amazon. The seed of *Hevea brasiliensis* would soon be ripening and still Mr. Wickham could find no means of carrying out his project. What followed is best described in his own words:

"Then occurred one of those chances such as a man has to take on top-tide or lose for ever. The startling news came down the river that our fine ship, the *Amazonas*, had been abandoned and left on the captain's hands, after having been stripped by the two gentlemen supercargoes (our late hospitable entertainers!), and that without so much as a stick of cargo for return voyage to Liverpool. I determined to plunge for it. . . . I knew that Captain Murray must be in a fix, so I wrote to him, boldly chartering the ship on behalf of the Government of India, and I appointed to meet him at the junction of the Tapajos and Amazon rivers by a certain date. There was no time to lose. . . . Working with as many Tapiyo Indians as I could get together at short notice, I daily ranged the forest, and packed on our backs in Indian pannier baskets as heavy loads of seeds as we could march down under."

In due course Mr. Wickham met Captain Murray, and they dropped down the river with the precious seeds slung up fore and aft in crates in the empty forehold. It was necessary to call at Para, where, thanks to the influence of Consul Green, the vessel was allowed to proceed without delay. In June, 1876, the seeds arrived at Kew, were planted, and a fortnight later seven thousand odd seedlings of *Hevea brasiliensis* filled the orchid and propagating houses there. Then came the question of their disposal. They were to have gone to Southern Burma, but the

depreciation of the rupee brought about economies and that idea had to be abandoned. Eventually they were placed in Wardian cases and despatched to the Eastern Tropic Botanical Gardens, and principally to Ceylon. Such is the manner in which plantation rubber first came out to the East.

But the romance of the rubber industry does not end here. The planters of British Malaya depended to a great extent on their coffee. With increased activity in planting Arabian coffee in Brazil, however, the price of Liberian fell from \$40 to \$15 per picul, and the industry was practically paralysed. Some estates were abandoned; the majority turned their attention partly to cocoanuts and particularly to Para rubber. Those which were devoted to the cultivation of the latter were rewarded, in 1902, by favourable market reports on the result of the tapping of Para rubber trees in the Kuala Kangsa Botanic Gardens. In Ceylon, too, the coffee leaf disease was doing immense damage just about the time that Mr. Wickham was procuring his Para rubber seeds in Brazil. The result proves to be a complete change from the West to the East. Brazil took the coffee industry and lost the rubber; and planters in the East do not regret the exchange. The fortunes made by some of the pioneers are almost beyond belief. In 1907 Brazil actually imported thousands of seeds from trees that are the lineal descendants of its own Para rubber. As an instance of the success of the pioneers the following may be given. A retired planter, who invested £4,000 in developing a rubber estate in Selangor and who took his entire interest in shares in the company which purchased the property, found, in September, 1907, that his holding represented £250,000.

The development of the rubber industry in the Dutch East Indies is of very recent growth. Six or eight years ago Para rubber was practically an unknown product from a planter's point of view in Java and Sumatra, although at that time there were several who watched with interest the operations of planters in the Federated Malay States and Ceylon.

It has already been shown how *Hevea brasiliensis* was carried by Mr. H. A. Wickham, over thirty years ago, from Brazil to Kew and from Kew to Ceylon and Singapore. Just about the time when planters and others in the Straits Settlements were beginning to reap the benefit of the step they had taken,

others realised that Java and Sumatra offered equal if not better possibilities, and the planting of *Hevea brasiliensis* was commenced on several estates.

Practically all the plants came from the Federated Malay States, and few of the estates in Netherlands India can show trees planted before 1904. Prior to the introduction of the Para rubber tree, indigenous *Ficus elastica* (Rambong) was tapped, but not to any considerable extent. Trees of Rambong are somewhat difficult to establish, and, owing to the enormous size which they attain, are planted very far apart, thus allowing only a small number of trees to the acre. All these drawbacks combine to make it unpopular from a planter's point of view, although in Java and Sumatra a good deal has been planted under Dutch auspices, both on private estates and State lands. Whether planters in the adjacent islands will follow the example of those in the Indo-Malayan region with regard to Rambong remains to be seen, but the planters of British Malaya have cleared out practically all the Rambong on their estates in order that Para rubber trees might be planted or their growth encouraged. Not only have they done so for the reasons already given, but they assert—and prices prove them to be correct—that Gutta Rambong trees do not yield good rubber until they are many years old. It cannot be overlooked, however, that Rambong rubber from Sumatra, prepared in the form of crêpe, has realised good prices in the London market, but whether planters can afford to grow it when the Para rubber trees are yielding is as yet unknown.

Up to the present, Java possesses most of the rubber estates in the Netherlands Indies, although Sumatra estates are being developed rapidly. New companies are being formed almost every week, for careful inquiries and prolonged investigations have shown that no better places could possibly be found for rubber cultivation than these "Gardens of the East." The climatic conditions could scarcely be improved upon. Throughout the whole of Netherlands India the abundant rainfall is the principal feature of the climate. The temperature varies but slightly throughout the year, and these two facts combined—the abundant rainfall and the constantly high temperature—produce a vegetation so extraordinarily luxuriant, that, with the possible exception of South America, no other place can equal it. As Brazil is the home of *Hevea brasiliensis*, the similarity between the two countries need scarcely be emphasised from the rubber planter's point of view.

When rubber was found to be a "good thing" in Java, plantations were laid out rapidly, for the fertile soil and the combination of heat and moisture tended to make the early growths a success. It was the moist, low tracts of Java that first received attention, and these were planted full of rubber-yielding growths, but the idea no longer prevails that *Hevea brasiliensis* will grow only in such districts. It is true that in Ceylon owners of upland estates say that trees planted on their land do not attain the girth of those grown in the lowlands, and that, considering the altitude, Rambong is more suitable, but some of those most competent to speak assert that, given suitable climatic conditions and soil, altitude is of little importance in the production of Para rubber. However that may be, it is in the lowlands of Java that the majority of the rubber-growing estates are to be found at present. The Preanger plateau, in the western part of the island, contains something like three-fourths of all the estates in the island,

and at Bandoeng a branch of the Government experimental station has been established where the cultivation and production of rubber is being carefully and very thoroughly investigated.

The land chosen for rubber estates in Netherlands India is both cultivated land and virgin jungle. In the latter case the planter or the agent of a company, after having inspected it and arrived at a conclusion as to its suitability for rubber, applies to the Governor-General for the plot of land, describing the boundaries as far as possible and giving the approximate area it covers. During recent years a considerable change has taken place in the granting of lands. Under the old regulations the planter applied for his land, and, if the Governor-General considered him suitable, the grant of land was made. In many cases the land was purchased outright.

Nowadays, however, should application be made for a certain tract, the land is put up for tender and goes to the highest bidder.

population of over thirty millions. By far the greater portion of the people live almost entirely on rice, and if a certain tract of land is required for paddy fields, or is even likely to be so needed, no rubber planter could ever hope to have it for an estate.

The soils in the Dutch East Indies are excellent and allow roots to grow freely. On some of the estates the top soil is naturally of sufficiently good "tilth" for a rubber nursery, and very little preparation is needed in laying it out. With such a soil and the climatic conditions previously mentioned, rubber trees in Java and Sumatra are equal at all stages of growth to plants of similar ages in the Federated Malay States, and surpass similar plants grown in Ceylon. In fact, some Java planters state that their trees are better than those of British Malaya, but such statements are mainly due to the spirit of friendly rivalry which already exists. However, as the product of the rubber tree, the latex or caoutchouc may be considered for general purposes as in proportion to the



PARA RUBBER TREES (*HEVEA BRASILIENSIS*).

But it is not sold outright as was previously the case. It is leased for a longer or shorter period, the majority of the leases being for ninety-nine years. The rent is not a very considerable item. Certain land is rated at two shillings per acre, while other land, which is not so good for agriculture, is rated as low as one shilling per acre. Under a very old law, formulated by Sir Stamford Raffles, payment for land need not be made until the purchaser has held it for six years. This is of great assistance to planters, who are thus able to get some return from the land that will enable them to pay the purchase money.

One explanation of the changes introduced by the Government within recent years in regard to the disposal of land in Java and Sumatra—but more particularly in Java—is that they do not want rubber to monopolise the land. In an island like Java, which is not much bigger than England, there is a

water supply to the trees, the conditions which obtain in Java and Sumatra and the other islands generally are undoubtedly specially suitable to the Para rubber trees.

In the case of virgin jungle, the first thing the planter has to do is to clear it. This is no easy task, and is sometimes attended by risk to life. The method employed is felling and burning. In the flat lands the estate must also be drained, a duty often undertaken before the actual clearing commences. Then as much of the jungle is felled as is possible and the rubbish piled round the harder wooded trees remaining. The planter must then wait for a spell of dry weather, and when the embryo estate has been made ready for a "burn," the debris is set on fire at one side, and, aided by a slight breeze, the flames gradually travel clean through. There is apparently an art in thus burning off the jungle, or, rather, in preparing it for the actual "burn." Sometimes patches are

left unscathed by the fire, owing to faulty preparation, but this does not often happen.

A field after a good burn presents a melancholy appearance. A few tall tree trunks, charred black, stand out of the soil, together with the remains of some of the greater branches that have not been completely consumed. In places, smouldering trunks are to be seen. Sometimes the standing remains are cut down, but more often fresh fuel is piled round them, lighted, and before very long nothing of any size remains.

The big branches and other debris are left on the land. Practically all authorities are agreed that it would be better if they were removed, and also if the roots which remain in the ground were grubbed out. The reason for this is that the decaying wood becomes the home and breeding ground of white ants and other parasitic insects as well as fungal diseases, all of which are liable to injure whatever may be planted on the land. However, such a clearance is seldom, if ever, effected, and in the Federated Malay States the rubber plants do not seem to have

rubber plants, which have previously been in nurseries for some months, are planted out. The length of time which they are allowed to remain in nurseries varies. Plants may be transplanted when they have grown only a few weeks, and may, on the other hand, be kept in the nurseries till they are twelve or eighteen months old. The general plan is to plant them out at about six months and to "stump" them. This consists in trimming the roots and cutting off the green part, leaving a stump of from two to four feet in length. Transplanting brings rubber trees into bearing more quickly from seed than stumping, but the latter operation is easier, can be delayed if necessary, and is suited to estates where there are long distances between the nurseries and the clearings. The plants put out as stumps are kept back for some six weeks, after which buds appear. Once having commenced to grow and form new roots, the trees grow steadily in height and girth.

The question of wide or close planting is still a subject for discussion among planters,

day. The sun is the cheapest and most effective weapon against the attacks of fungi and bacteria that the planter possesses. When the trees are ten years old or more, the avenue system allows a quicker and more effective supervision of the health and vigour of trees, and is a help to enabling the superintendent easily to locate trees on the estate for ordinary or for disease-prevention work. As to the exact distance at which trees should be planted, situation, soil, rainfall, and other factors must be considered, but it is better, with an eye to the future, to err on the side of planting too few rather than too many."

The advocates of close planting state that it saves weeding. The ground is more quickly covered with shade, which checks the growth of weeds, while it is further argued that should a tree fail, the superintendent of the estate on which close planting is followed need not trouble to put in a fresh plant.

During the time of preparatory growth, before the trees are tapped, the chief cost of upkeep on an estate is the clearing of the weeds, and the good planter endeavours to have his fields always as clean as possible. Weeds spring up and flourish with a rapidity and luxuriance which are a revelation to those unacquainted with the colony. Planters from Ceylon visiting British Malaya are often astonished at the amount of weeding necessary there. Even more is done in Java than in the Federated Malay States, but thanks to the labour conditions—which will be dealt with later in the article—the cost is by no means excessive. Much of the land is in the grip of *lalang* (*Imperata arundinacea*). The wind agitates it like the billows of the sea, but its roots possess such a firm grip that the most thorough and repeated digging are necessary to eradicate it. Experiments have been made to destroy it by spraying with arsenite of soda. Three or four applications at intervals of a few weeks, each application taking place when the *lalang* is beginning to recover from the previous dose, are stated to be sufficient to kill the pest entirely.

As has previously been pointed out, one of the advantages possessed by many of the rubber estates in Java and Sumatra is that, although not tapping yet, they are producing a fairly good income from what must now be regarded as "catch crops," although a few years ago they were the source of the sole revenue of the land. Among the holders of virgin soil a difference of opinion exists in Netherlands India as elsewhere on the desirability of planting catch crops among the young rubber. Some assert that such plants, although they bring in a quick return, eventually do more harm than good in robbing the rubber of the nourishment taken out of the soil. Others—and they are in the majority—do not hold with this view, and freely interplant coffee and tea with their *Hevea brasiliensis*. Robusta coffee is the catch crop most frequently seen, for it is undoubtedly one of the most profitable. Liberia coffee is also planted, but it does not bear for three years, whereas Robusta will yield before it is two years old. Tobacco and cacao are also grown as catch crops on many estates in Java and Sumatra, but as fresh "stumps" are put in from the nurseries the other plants are removed.

Up to the present no systematic tapping has taken place in Netherlands India, except in the case of *Ficus* in Sumatra. In the few instances where experimental tapping has been carried out, the methods employed are identical with those in use in the Federated



YOUNG PARA RUBBER PLANTS (*HEVEA BRASILIENSIS*), EXPERIMENTAL GARDENS, BUITENZORG.

suffered seriously as yet as a consequence. Of course, the reason why the wood is permitted to rot where it falls is that planting is, above everything else, a business proposition, and not only do the planters try to get quick returns, but they also dislike the idea of spending the first profits, when they are made, in wiping off all the extra expenditure involved in thorough clearing.

The Dutch East Indies are somewhat more fortunate than the Straits Settlements in the matter of clearing, for much of the land there is already under cultivation, so that rubber planters simply have to replace the existing growth with Para trees. There is a double advantage in this, as they are able to obtain some return from the crops that are being displaced while the rubber is reaching maturity.

As soon as the land has been prepared the

but in Java and Sumatra the tendency is to follow the example of the Federated Malay States and put in about 150 or 200 trees to the acre. There are few authorities more competent to speak on this point than Mr. J. B. Carruthers, who, prior to his taking up an important post in the West Indies, was Director of Agriculture and Government Botanist in the Federated Malay States. In one of his reports Mr. Carruthers wrote:—"Planters have begun to see the value of giving these trees plenty of room, and to plant more trees than it is intended permanently to keep has been seen to be most fallacious and dangerous. . . . The practice, now very general, of planting at unequal distances, i.e. in avenues of trees 24 feet by 30 feet, or 20 feet by 17 feet, has many advantages. It admits direct sunlight all over the ground for a short period every

Malay States. The plantation industry may still be said to be in its infancy, and consequently many matters affecting the economy of the rubber tree have yet to be elucidated by further experience and research. In the first years of the production of plantation rubber, the trees were often injured by the tappers cutting too deeply. Less bark is also cut away now than was formerly the case, and much study is being devoted to this subject of retaining the original cortex as long as possible. Before going any further, it may be as well to give, briefly, an outline of how rubber is obtained.

Rubber consists of the dried milk or latex of certain plants. This latex is extracted from the trees by making incisions in the cortex or bark of the trunk and branches, and it is naturally the object of the planter to see that the trees are not injured in the process. With Para and Castilloa rubber trees the outer rough bark is simply cleaned by hand, but with Ceara rubber trees it is often necessary to remove the thin, hard outer bark before tapping operations can be started. In Ceylon much ingenuity has been expended in devising tapping and pricking instruments.

The earliest system was the V cut, with a small receiving vessel at the base of each V. On a large tree there would be as many as a dozen cuts with a tin to each. Then there was the single oblique cut, followed by a number of V's joined by a vertical line so as to form a herring-bone arrangement and necessitating but one receiving vessel at the base of the trunk. On younger trees the half herring-bone is employed, while the spiral is yet another system in use.

Tapping is usually carried out on the trunk from the base to a height of six feet; occasionally the first branches and the higher parts of the trunk are tapped, incisions sometimes being made twenty feet above the ground. In each case the incision is made carefully, to avoid damaging the cambium, and the line is made on a gradient to allow a flow of latex along the lower surface of the line of excision from above downwards. Water, either from bottles or drip tins is allowed to flow along the cuts in order to prevent coagulation from taking place in the cuts; it also accelerates the flow of the latex.

In most of the systems of tapping, the operator commences at the highest point and repeatedly pares off the surface of the lower edge of the cortex until he has completely stripped it to the base of the tree. At each paring or shaving operation only a small portion of the dried tissue is removed so as to open the latex tubes. The renewed bark is not at first protected, as it is later, by a hard, corky layer, and would be susceptible to attack should some resultant pest appear. The first renewal of bark is satisfactory, but little experience is possessed at present as to the second renewal and none as to the third.

The policy generally pursued by most planters in the Middle East is to under-tap. Excessive and too frequent tapping not only produces latex containing an excess of water and less caoutchouc, but is liable to injure the trees to such an extent that they are incapable of producing any latex. The latex tubes of Para and Ceara rubber trees do not arise from internal tissues and push themselves into the cortex, but by a process of decomposition of the partition walls of the cortical cells. The bark or cortex, which is thus the mother of the future laticiferous system, is, during paring operations, either

partially or entirely removed from the tree at a time when the component cells possess reserve food material intended for the future use of the plants.

At the present moment there is a tendency on the part of some planters—and the prospectuses of several new rubber companies owning estates in Java and Sumatra are not exempt from the impeachment—to anticipate tapping too heavily and too soon. In this connection we cannot do better than quote the words of the commercial editor of the *Financier and Bullionist*, who, in the Rubber Share Handbook for 1909 writes:—"To the credit of every responsible and reputable plantation estate manager it must be said that tapping of young (and, as a rule, immature) trees has been the exception rather than the rule so far, but of late I have noticed, not without regret, a tendency to whittle down the length of time which ought to elapse between the planting of *Hevea brasiliensis* and the earliest date at which such trees can be considered as within the tapping

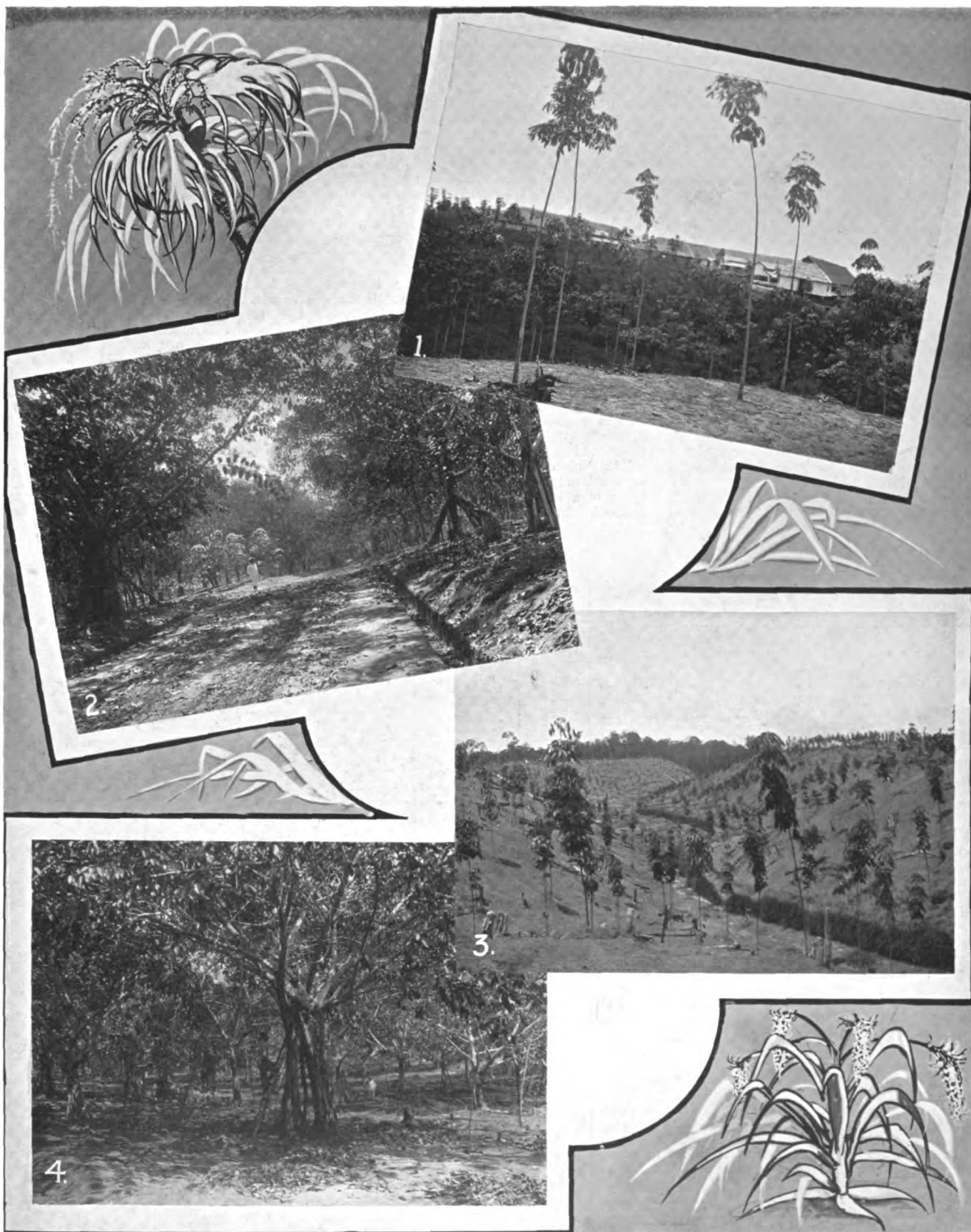
qualities (from the manufacturer's standpoint) as time goes on What effect would the marketing of such rubber in large quantities have upon the prospects of the plantation rubber industry as it exists to-day? And last, but not least, what would be the effect of the tapping upon such young and scarcely developed trees if the increased output is to be obtained from tapping young trees—say, three years old and upwards—then, while dividends may be increased for a brief space of time, the industry as a whole will be seriously endangered. There is no man who can seriously argue that the average quality of rubber obtained from a three-year-old tree is equal in any respect to that obtained from a seven-year-old tree. Rubber from four-year-old trees is commercially equivalent, as Wright has pointed out, to the 'Congo ball or a similar quantity of African.' If, of course, it is thought desirable by directors of Middle East plantation rubber companies to market such a grade of rubber, and sell



DRAWBRIDGE AT BANDJERMASIN.
(Rubber from Central Borneo in foreground).

scope. It may or may not be correct that, when a tree—irrespective of age—has reached a certain girth (more or less, be it noted, arbitrarily fixed) it is ready to tap. It may or may not be that rubber thus obtained is equal in elasticity and strength to rubber obtained from trees, let us say, of double the age but not of very much greater girth. I incline to the opinion—and I am glad to know that in adopting this view I am backed up not only by responsible scientists who have deeply interested themselves in plantation rubber, but by many of the leading practical men engaged in the industry in the Middle East—that rubber obtained from young (*i.e.* under six years old) trees is inferior in every way to rubber obtained from trees of, say, seven years old and upwards, and such rubber—provided the trees are not heavily tapped for the first few years—as a rule improves in the essential

it at about two shillings per pound, no one (unless it be the shareholders) can prevent their doing so, and given that decent dividends are paid as the result of such a policy, it is highly improbable the bulk of the proprietors would object. But by so doing the hardly won recognition of the merits of high-grade plantation rubber at the hands of the manufacturing community would be seriously endangered. In any case it is doubtful whether the product of immature plantation *Hevea* would equal commercially even the lowest grades of African rubber; in other words, such a product would be, from the standpoint of the majority of manufacturers, to all intents and purposes, useless, and consequently would soon become unsaleable. There are still a few manufacturers who regard plantation rubber as a trial, and even they are only slowly veering in its favour through the almost superhuman efforts made



VIEWS OF THE BEGERPANG RUBBER ESTATE, LOEBOEG PAKAM, SERDANG, UNITED SERDANG (SUMATRA)
RUBBER PLANTATIONS, LIMITED.

by estate managers to get rid of the characteristics by which objection was properly enough raised in connection with the earlier shipments from the Middle East to this country and the Continent. If this work is to be thrown away—and thrown away it will be if the market is flooded with the product of immature plantation trees—the sooner it is recognised that greed has conquered common-sense the better."

Mr. H. A. Wickham has also pointed out that in cultivating *Hevea* planters must bear in mind the possible ill-effect due to overstrain, whereby the vitality of the tree may be lowered and impaired to such an extent as to lay them open to the inroads of fungoid growths.

When large quantities of latex have been obtained in the liquid condition, they are removed to a central factory. There the latex is first of all freed from all impurities, such as bark and sand, and is then either accumulated in settling tanks or placed in coagulating receptacles. Sometimes it is smoked by being passed through an apparatus charged with the smoke from smouldering logs of wood which have been soaked in creosote; this operation is often considered advisable in order to prevent subsequent softening of the rubber.

In coagulating the latex different methods are adopted. In the first method it is poured

into a bowl-like receptacle; acetic acid is added, and the apparatus made to revolve. The coagulated latex accumulates in the centre and the watery portion on the outside. When the latter is no longer turbid, the coagulation of the latex is considered perfect and the rubber removed. In the second method, acetic acid is added to the latex, which has accumulated in large settling tanks, and the rubber allowed to accumulate on the surface. The third method—often spoken of as the natural one—is to allow the latex to undergo ordinary putrefaction. Some of its constituents decompose and give rise to acidity; this is followed by coagulation, when the rubber rises to the surface.

The freshly coagulated rubber is soft, spongy and pliable, and while in this condition is subjected to much stretching and washing. It is possible that before long the water, or whey, left after coagulation will be treated scientifically, and further caoutchouc extracted, or it may be returned in some form or other to the soil.

Interesting experiments are still being carried on as to the best form in which to supply plantation rubber, which has been produced in many varieties of form since the original biscuit. The Malaya estates have exported much sheet and crêpe rubber, and these, of a light amber colour, are in great demand. In mentioning crêpe it is interest-

ing to note that Mr. W. W. Bailey, a well-known Malaya planter, was the first to make crêpe from the parings produced in tapping. Until about three years ago, these parings were left on the ground. Now, however, they are put through the same washing machines as crêpe rubber, and the result is a dark and inferior crêpe which more than pays the slight cost of collecting. On Messrs. Pears's estate, in Johore, the celebrated Lanadron block rubber was first produced, and many planters now adopt this form for exportation.

The latex of most of the rubber, as it issues from the tree, is of a creamy white colour, faintly alkaline or neutral, and rapidly turns acid and coagulates on exposure to the air. By the addition of ammonia or formalin it may be kept in a liquid state indefinitely. The composition varies according to the age, season and section of the stem from which it is obtained, but as a general average that from *Hevea brasiliensis*, according to Mr. Herbert Wright, possesses 50 to 55 per cent. of water, 30 to 40 per cent. of caoutchouc, 2 to 3 per cent. of proteid matter, 2 to 4 per cent. of resins, and varying proportions of other constituents. The proportions of resins and proteids appear to be higher in the latices from Ceara and Castilloa rubber trees. In the same tree the percentage of caoutchouc often shows a decrease

Name of Company,	Date of Formation.	Capital.	No of Shares.	Issued.	Issue Value.	Paid up to,
Anglo-Sumatra Rubber Company, Ltd.	1907	£90,000	90,000	71,300	£1	£1.
Bandar Sumatra Rubber Company, Ltd....	1909	£100,000	100,000	11,000	£1	Fully paid (vendors).
				83,000		7s. 6d.
Bandjarsarie (Java) Rubber Company, Ltd.	1908	£50,000	50,000	25,000	£1	Fully paid (vendors).
				10,000		15s.
Borneo Rubber and Trading Company, Ltd.	1906	£130,000	130,000	42,500	£1	Fully paid (vendors).
				75,011		Fully paid.
British Sumatra Rubber Estates	1908	£130,000	130,000	42,000	£1	Fully paid (vendors).
				58,000		Fully paid.
Glen Bervie Rubber Company, Ltd.	1908	£35,000	35,000	0,000	£1	Fully paid (vendors).
				13,000		12s. 6d.
Hevea Rubber Company, Ltd.	—	Fl. 200,000	2,000	1,000	Fl. 100	Fully paid (vendors).*
				1,000		Fl. 65.
Java Rubber Plantations, Ltd.	1907	£35,000	35,000	6,000		Fully paid.
				10,500	£1	17s. 6d.
				2,000		10s.
Java Rubber and Produce Company, Ltd.	1906	£50,000	50,000	10,603	£1	Fully paid (vendors).
				24,307		Fully paid.
Java United Plantations, Ltd.	1909	£200,000	200,000	60,666	£1	Fully paid (vendors).
				133,334		Fully paid.
Kali Selogiri Syndicate, Ltd.	1907	£25,000	25,000	3,000	£1	Fully paid.
				17,000		10s. 6d.
Langkat Sumatra Rubber Company, Ltd.	1908	£75,000	75,000	31,500	£1	Fully paid (vendors).
				31,000		18s.
Sabang Rubber Estates, Ltd.	1909	£65,000	65,000	15,000	£1	Fully paid (vendors).
				40,000		Offered August, 1909.
Sengon (Java) Company, Ltd.	1907	£22,000	22,000	17,264	£1	Fully paid.
Serdang Central Plantations, Ltd.	1909	£60,000	60,000	18,500	£1	Fully paid (vendors).
				26,500		10s.
Simo Rubber Estates, Ltd.	1907	£35,000	35,000	3,000	£1	Fully paid (vendors).
				23,829		17s. 6d.
Simpang Sumatra Rubber Company, Ltd.	1909	£60,000	60,000	11,000	£1	Fully paid (vendors).
				30,000		10s.
Sumatra Consolidated Rubber Estates, Ltd.	1909	£75,000	75,000	15,746	£1	Fully paid (vendors).
				35,254		12s. 6d.
Sumatra-Deli Rubber Estates, Ltd.	1907	£240,000	240,000	190,000	£1	Fully paid.
Sumatra Para Rubber Plantations, Ltd.	1907	£100,000	100,000	90,500	£1	Fully paid.
Sumatra Proprietary Rubber Plantations, Ltd.	1909	£100,000	100,000	10,000	£1	Fully paid (vendors).
				60,000		10s. (5s. due May, 1910).
Sungei Kari (Sumatra) Rubber Estate, Ltd.	1909	£56,000	56,000	23,000	£1	Fully paid (vendors).
				30,000		10s.
Tandjong Rubber Company, Ltd.	1907	£100,000	100,000	70,000	£1	16s.
United Lankat Plantations Company, Ltd.	1889	£450,000	450,000	260,000	£1	Fully paid.
United Serdang (Sumatra) Rubber Plantations, Ltd.	1907	£200,000	200,000	154,000	£1	Fully paid.
United Sumatra Rubber Estates, Ltd.	1908	£85,000	85,000	70,000	£1	Fully paid.

* 12 guilders = £1.

in young trees, branches of old trees, or when obtained from the renewed bark of tapped areas.

During the coagulating and drying processes, it is obvious that the main loss is water and ingredients of the latex which remain in solution in the mother liquor. When the rubber is subjected to washing and rolling superficial and soluble ingredients are also largely removed, so that the proportionate composition of the final dry product may be slightly different from that of the original latex.

With a population of over thirty millions, confined in an area little greater than that of England, Java supplies the bulk of the labour not only for its own estates, but for Sumatra and Borneo. A large proportion of Javanese is also found among the coolies on the rubber plantations of the Federated Malay States. The rate of pay in Java is naturally low compared with that obtainable in Ceylon and the Federated Malay States. Women coolies are paid fourpence a day, and the men a penny more. One peculiarity of the labour conditions in Netherlands India generally, but more particularly in Java, is that everything possible is done to induce the coolies to live on the estate. The management provide theatres and other amusements, and the welfare of the coolies is carefully seen to. The object of all this solicitude is that the labour may be had when wanted. If it was not so, the natives might go off to the ricefields just at the critical moment when the rubber planter needed them. Naturally all this care tends to the good of the estates. Weeding can be carried on continuously and the young plants well supervised. The Government keeps a very sharp eye on the treatment of the natives. On some estates hospitals are actually provided, but the majority of planters contribute to a local hospital, and as soon as a coolie is seen to be ailing he is sent off to the hospital.

The accommodation and the rate of pay for planters is about the same as that obtaining in the Federated Malay States. The health conditions are good, although the first turning over of virgin soil is often productive of malaria, the breaking up of the surface stirring the germs. The outlook for the rubber industry in the Dutch East Indies is extremely gratifying, the only danger apparent so far being that undue competition may induce planters to tap too soon—a policy which we have shown to be disastrous in the long run.

On the opposite page is an alphabetical list of the sterling companies owning rubber properties in Netherlands India.

THE UNITED SERDANG (SUMATRA) RUBBER PLANTATIONS, LTD.

THIS Company was formed in London in July, 1907, with the object of acquiring the Begerpang and Namoe Rambei Estates, both of which are situated in the Serdang district of the East Coast of Sumatra. The authorised capital of the Company was originally £170,000; but this amount was subsequently increased to £200,000. The total area under the control of the Company is 11,282 acres. Begerpang, 3,520 acres; Namoe Rambei, 6,762 acres, and Naga Timbool, 1,000 acres, the latter being a block cut off from the Namoe Rambei estate. The estates have excellent postal and telephonic communication, and are connected with the railway by very good roads.

Since the inception of the Company considerable progress has been made in the

development of the properties, with the result that the total area planted with rubber is one of the largest owned by any rubber company operating in the East. The excellent growth of Para rubber clearly demonstrates its suitability for this district.

The board of directors consists of Messrs. Arthur Lampard (chairman), C. E. Morrison, F. E. Savill, H. W. Brett, K. F. Arbuthnot, and A. M. E. de Guigne. Messrs. Harrisons and Crosfield, Ltd., are the Company's London agents and secretaries, and the Resident general manager is Mr. V. Ris. The administration of the estates and the finances of the Company are controlled by a head office situated at Begerpang, the staff there consisting of Messrs. V. Ris, A. L. Mathewson, and D. Kersken Dzn.

BEGERPANG ESTATE is situated only one mile distant from the Sialang station. Since the estate was taken over by the present Company, the cultivated area has been extended from 2,100 to 3,250 acres, there being now a total of some 408,500 Para rubber trees, and about 14,000 Rambongs. The former range from nearly four years of age downwards, while the majority of the latter are about seven and a half years old. In the latter half of 1908, and during the current year, the Rambong trees have been successfully tapped. This rubber, prepared in the form of crêpe, has found much favour on the London markets, and the prices realised have been excellent. At the Medan Exhibition of 1908 a gold medal—being the highest award in the agricultural section—was presented to the Begerpang estate for an exhibit of "The Rambong, its tapping and preparation," which consisted of Rambong crêpe and scrap rubber, a collection of tapping tools, &c., the trunk of a Rambong tree, showing the special system of tapping employed and the machinery in use on the estate.

Some 1,100 acres of the estate were originally planted with Liberia coffee, but Para rubber is now being interplanted, and in a short time the coffee plants will be entirely eradicated. The labour force consists of 490 Javanese men and 364 women.

The manager of the estate is Mr. Th. Sommer and he is assisted by Messrs. E. Laurent, H. Benz, W. Evers, W. Witte, G. Low, and G. De Jongh.

NAMOE RAMBEI ESTATE is situated about two miles from the Puloemboekan station of the Deli Railway Company. Since it was taken over by the present owners the area under cultivation has been extended from 2,078 to 3,000 acres. There are now some 307,000 Para rubber trees ranging in age from over six years downwards, of which 178,400 are interplanted with Liberia coffee. Many of the oldest trees have already been tapped, and operations are now being commenced on some 3,000 Rambongs.

The cultivation of Liberian coffee also provides a considerable revenue. An area of 1,650 acres has been planted with approximately 475,000 bushes, and at the Medan Exhibition of 1908 the exhibits from the estate secured the silver medal, the highest award for coffee. A medal was also obtained for an exhibit of cotton (kapok), before and after preparation. Some 523 acres of young rubber clearings were also interplanted with 277,000 Robusta coffee plants in the latter half of 1908.

The estate gives employment to 377 Javanese men and 434 Javanese women, as well as 55 Tamil coolies.

The manager, M. J. B. Laurent, came to Sumatra in 1876, and has been associated with the Namoe Rambei estate for about fifteen years. He is assisted by Messrs.

J. C. Holtzapffel, L. Laurent, R. de Coulon, and D. Louwerier. The accountant is Mr. A. Davoine, who arrived in Sumatra in 1875.

NAGA TIMBOOL ESTATE consists of a block of 1,000 acres, divided off for convenience in working, from the Namoe Rambei estate. The whole area, which was originally covered with virgin forest, has been cleared and burnt by the present Company, and over half of it has now been planted with Para rubber. Mr. John Bremer is the manager.

THE TANDJONG RUBBER COMPANY.

NOTWITHSTANDING the rush to plant rubber within recent years, few if any companies are able to record the planting of so large an area as 3,000 acres of Para rubber in twenty-two months. Such was the work completed by the Tandjong Rubber Company, Ltd., in December, 1908. The number of trees planted is approximately 345,000, and everywhere a vigorous and healthy growth is to be seen. To carry out this large undertaking, the labour force had to be considerably augmented, for when the estate was taken over by the present Company, there were only about seventy coolies present. Practically the whole of the labour force, therefore, had to be recruited after the commencement of operations, and during 1907, in addition to the local engagement of Chinese coolies, 1,100 odd coolies were obtained from Java. The present labour force consists of 780 Javanese.

The Company was incorporated in March, 1907, to acquire the land concession known as Tandjong Kassau, about seven miles from the Tebing Tinggi Railway Station. The directors are:—Messrs. Arthur Lampard, H. W. Brett, and K. F. Arbuthnot; while Messrs. Harrisons & Crosfield, Ltd., are the agents and secretaries in London. The manager of the estate is Mr. F. Freudweiler, and the assistants are:—Messrs. A. J. Fortanier, U. Bollinger, E. R. Rhyner, and J. St. Clair Saunders. Mr. V. Ris, the general manager of the United Serdang (Sumatra) Rubber Plantations, Ltd., is the visiting agent.

TEBING TINGGI ESTATE.

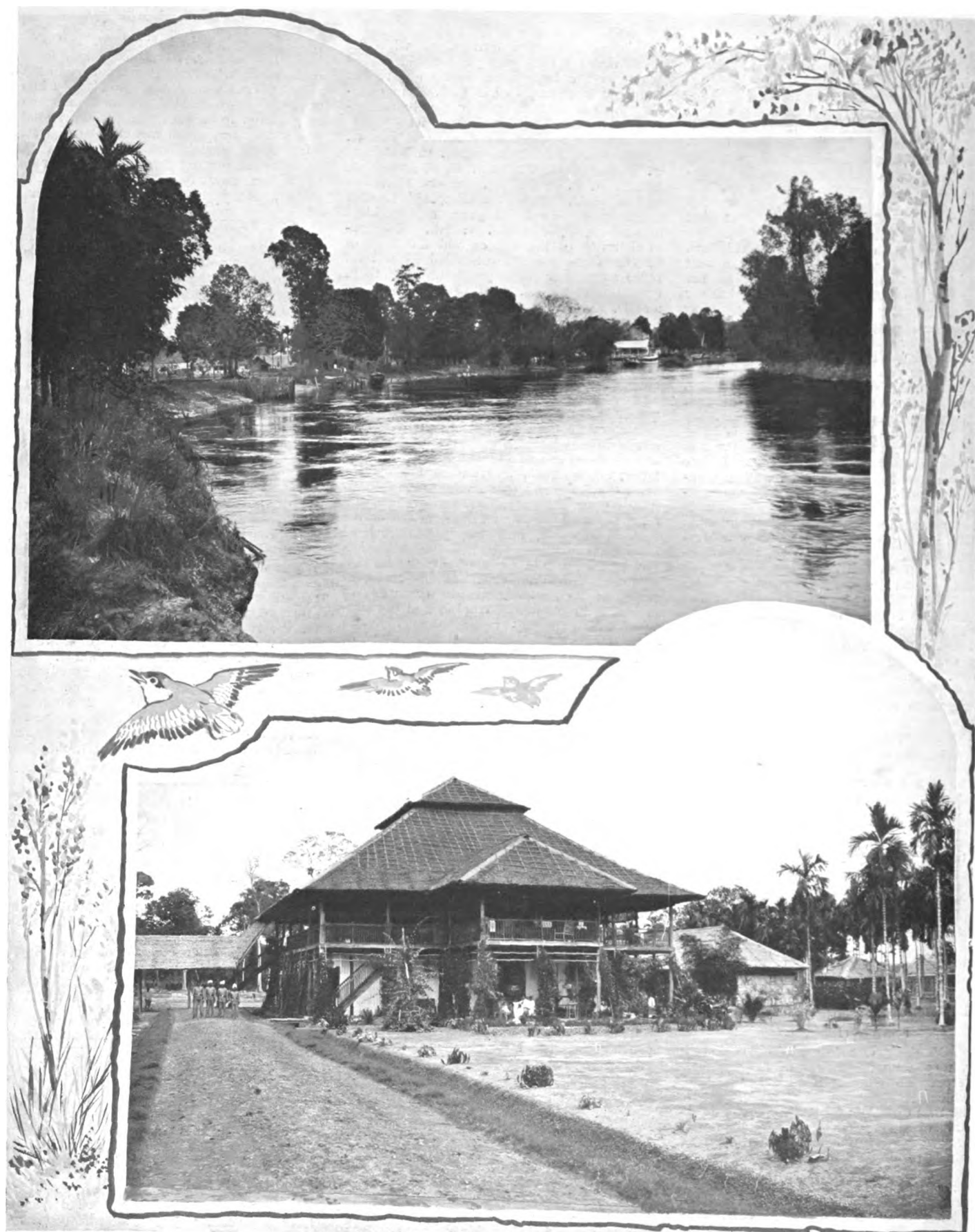
THIS concession is situated in the district Padang, about three miles from the Tebing Tinggi Station, and is owned by Messrs. Harrisons & Crosfield, Ltd., of London. It has an area of 6,950 acres, the planting of 210 acres of which, with about 23,100 Para rubber trees, was completed in January, 1909. The young trees are in a thriving and healthy condition, and foretell a bright future when tapping operations commence.

Mr. F. Hess, who was formerly employed as first assistant on the Tandjong Kassau Estate during the opening operations there, is the manager, and the visiting agent is Mr. V. Ris.

VEEREENIGDE HEVEA PLANTAGES DER BILALANDEN.

THIS company was founded in Amsterdam in 1906, with a capital of G. 3,000,000. Four estates, with an area of about 8,000 acres, situated in the Bila district of the Residency of the East Coast of Sumatra, have been opened up and partially planted with Para rubber, which, as will be seen from the accompanying photographs, appears to be thriving, and to promise a good output of latex in five or six years.

The head administrator for the Company is Mr. J. Denklaui, while the sub-agent of the Netherlands Trading Society at Medan (Deli), and Messrs. Geo. Wehry & Co., of Batavia, form the local committee.



VEEREENIGDE HEVEA PLANTAGES DER BILALANDEN, SUMATRA EAST COAST.
 1. RIVER THROUGH ONE OF THE ESTATES. 2. ADMINISTRATOR'S HOUSE.



VEEREENIGDE HEVEA PLANTAGES DER BILALANDEN, SUMATRA EAST COAST.

1. YOUNG RUBBER PLANTS.

2 and 3. HEALTHY YOUNG RUBBER TREES.

4. NEW ROAD THROUGH CALMURGHE ESTATE.



BAS-RELIEFS, BOROBUDUR.

SUGAR INDUSTRY IN JAVA.

By J. J. HAZEWINDEL, Director of the Sugar Experiment Station, Pekalongan.



THE INDUSTRY BEFORE THE SYSTEM OF CULTIVATION.— Before the introduction of the system of cultivation the production of sugar in Java was in the hands of natives, the Chinese and Europeans.

The latter were also indirectly interested in this industry, as the old East India Company at times granted privileges to highly placed officials, who in turn disposed of their rights.

Sugar cultivation was already in existence when the Company established itself in Java.

At that time, however, there could be no question of any rational development of the industry. The East India Company, which regarded the conquered land as a possession to be exploited, regulated all economic questions and processes at its own good discretion and with an eye to its own purposes. Thus in the year 1710, for instance, there were 130 mills in Batavia and its environs, whilst in addition, the Chinese factories extended to other residencies. The Company then fearing an excess of production laid down a maximum production of 300 piculs, or about 18,000 kilogrammes, for each factory. This measure caused the number of factories to fall off, until in the year 1745 there were only sixty-five left. The Company then decreed that the number should be seventy. In 1757, however, there were already eighty-two in the neighbourhood of Batavia alone, but this number had once more dropped to fifty-five in 1779, twenty-four belonging to Europeans. They produced together about 100,000 piculs, or about 1,800 piculs (approximately 108,000 kilogrammes) per factory, *i.e.* nearly six times as much as in 1710. The production was regulated in this way for a number of years by the Company, which in 1777 determined that 64,000 piculs must be delivered to it; in 1779, 100,000 piculs; in 1784, 84,000 piculs; and in 1808, 95,000 piculs. At the end of the eighteenth century, the Dutch East India Company went into liquidation and the State assumed control. Regula-

tions of the Company thereupon gradually disappeared. For instance, between 1808 and 1811, the compulsory sugar deliveries to the Company were abolished, and the then existing system of advances cancelled. Both measures had a bad effect, as will readily be understood, where the industry was wholly and completely regulated by the authorities. The latter proceeded frequently upon very inconsistent principles. Any person acquainted with the system of management of the East India Company will understand at once that these principles were seldom in any way related to the interests of the industry.

Nevertheless, the abolition of advances and compulsory deliveries was of no great utility to the industry. The latter had fallen into a condition of decay, owing both to the vicious system and political circumstances.

In 1826 the advances were once more introduced, but under entirely different circumstances and with quite different views. They were now purely and simply meant as an economic support. It was very successful, as the production rose from about 20,000 piculs in 1826 to 110,000 piculs in 1830.

All factors for a normal development of the industry were therefore now in existence, and there was every sign that it would have taken a regular course if it had not been for the fact that in 1830 the system of cultivation was introduced, in connection with which Government interference was once more strongly to the fore.

II. THE SYSTEM OF CULTIVATION AND ITS INFLUENCE ON THE SUGAR INDUSTRY. A brief word may not be out of place here concerning this remarkable system in so far as it relates to the sugar industry. The fundamental idea underlying the system was that of obtaining export products in the greatest possible quantity without pressure on the population. The value of the products to be realised, indeed, was much greater than the amount which could ever be produced by the population in the shape of taxes, whilst the

preparation of export articles could not be expected from the population itself. For many of these products it was sufficient to deal entirely with the native. The latter was thereupon compelled to cultivate certain growths and to sell the harvest to the Government at a fixed price.

As to the sugar, though the method of preparation was still in its infancy, no direct production could be expected from the native population. Hence the necessity of arriving at arrangements with Europeans and even Chinese. Generally speaking, the Europeans had not seen very far in the matter, and therefore the Government had to make concessions to them on very liberal principles. Notwithstanding this, cases were not infrequent in which a contract had to be concluded by direct or indirect compulsion. For the erection of factories the contractors obtained an advance free of interest from the Government, whilst many facilities were granted them which, quite in conflict with the original object of the cultivation, were tantamount to a heavy pressure on the population. Furthermore, many officials were personally interested in the results of the industry. They received percentages, of which the native chiefs likewise enjoyed a portion. These regulations necessarily led to vexatious and arbitrary proceedings, above all where a mistaken view of the interest of the State resulted in a rise of the production. Thus an entirely artificial condition was called into existence. Those interested in an industry, if they desire it to continue flourishing and to progress, are almost always well advised in reducing the cost price of the unit product at the place of consumption. The normal methods of achieving this end are improvements in methods of manufacture, the use of better raw material, the increase of the total quantity produced, and cheaper transport. For this there is needed capital, foresight, intelligence, knowledge and diligence. Another method, which is but rarely encountered now in modern society, is the adoption of vexatious measures, sweating and

compulsion by intimidation. If it be considered that the great majority of the then sugar manufacturers were originally neither planters nor men of technical attainments, and many of them had become planters more or less under compulsion, whilst there were others who had turned to this industry for want of something better, it needs no argument to show that there were few honest, capable and earnest attempts made for progress in the work.

To lower the cost price of the product by pressure on the population, in which the administration lent willing support, was a much more readily suggested and widely adopted idea. Moreover, it involved no risk, in contrast to the rational methods. In order to apply rational methods stable conditions are necessary above all, and these, by no stretch of the imagination, could be said to exist. The Government issued decree after decree wanting in all consequence and consistency.

By this system, which resulted in production at haphazard, the progress of the

to security. Sometimes the Government was ultra-fiscal, and then, again, extremely humane towards the population, and there were even entirely different principles in force for different districts.

This entire period of the sugar industry showed the impossibility of conciliating wholly opposite interests, which, furthermore, rested for the most part on unjust economic bases.

III. GRADUAL ABOLITION OF THE SYSTEM OF CULTIVATION (1870-92). THE CRISIS, THE SEREH DISEASE, AND PRIVATE INITIATIVE UNTIL 1886.—Finally, in 1870, it was perceived that matters could not continue any longer in this way, and a law was passed intended to put an end to this parlous state of affairs. So great a change of attitude, cutting deeply into the entire system of administration, however, could not be carried out at one stroke. Therefore a period of twenty years was taken, during which the industry was required to transform itself from its existing dependent condition into a business in which the producer and the

the new state of affairs gradually arose; 1879 is therefore a turning-point in the history of the industry, and it is easy to perceive, during the period 1830-79, the influence of the Government and of private initiative on the development of the industry.

If the Government measures before 1870 had been followed carefully, it would have been noted that a totally irrational system, by the iron force of circumstances, was gradually modified until a normal industry arose. This is a very interesting example of economic development.

Nevertheless, owing to Government interference the culture attained importance, and not only that, its continued existence became possible and assured, as the Government was itself the chief buyer. This, of course, was not calculated to promote the industry, but, on the other hand, it was no small advantage that the interests of this industry, and those of the country as a whole, were one in a certain sense, so that the industry could not be ruined without great and direct loss to the Treasury. Thus, under the protection of the State the few free factories were able to acquire the knowledge which gave them sufficient experience to raise their industry to a level of prosperity as free and independent concerns. In addition, owing to the gradual character of the abolition of the cultivation system and forced deliveries to the Government, they felt the necessity of abandoning their old courses and improving their factories by the use of rational methods. A few progressive men, however, had already started as free manufacturers. In the year 1879, indeed, there were already 35 undertakings on private lands, and in the Principality 30 factories, whilst 40 factories were already at work as entirely free undertakings under the provisions of the law of 1870.

The cultivation system in the Principality requires some explanation. In this region, administered by independent princes under the sovereignty of the Dutch Government, the prince was the owner of the soil. The prince's subjects could not produce their chief article of food, rice, unless the native prince granted them the necessary ground. This, however, was granted only on condition that they planted and harvested for the prince a piece of ground which bore a certain proportion to that placed at their disposal. Furthermore, to pay his officials, the prince assigned large areas, and in this way the officials were substituted in the rights of the princes. It was these native chiefs—called *appanage* holders owing to these temporary concessions—who, in turn, chiefly assigned their rights for ready cash to European contractors. On the private lands the position of matters was somewhat similar. The owner could require work from the natives settled thereon, in exchange for the soil granted to them.

Side by side with these 105 free undertakings, there were, in 1879, only 95 left with the cultivation system as their basis. It will be evident from the following table, setting out the production in million kilogrammes in various years, how great was the influence of the emancipation of the cultivation:—

	1875.	1876.	1877.	1878.	1879.
On the 95 factories under cultivation system	15.8	16.7	17.8	16.1	16.5
Free agreements with the population...	1.4	2.3	2.5	2.5	2.7
Principality	1.9	2.5	3.1	3.2	3.0
Total	19.1	21.5	23.4	21.8	22.2



CENTRE OF THE SUGAR TRADE, SOURABAYA.

entire cultivation was hampered. One of the most striking examples of unfavourable Government interference is probably the following. The selling price was artificially forced down by Government regulations. Nevertheless, gradually it was seen that notwithstanding this fact the business was profitable and the number of factories gradually increased. After having made some further regulations, the Government then determined to grant new concessions to those who should supply the sugar cheapest to the Government, i.e. by tender. This measure reduced the profits, and, where good banking institutions and credit were not yet able to exercise their wholesome effect, the reduction in the surplus profit necessarily meant less improvement in working by rational methods.

All this would probably have slowly developed for good, had it not been for the fact that gradually the ever greater instability of administrative views was fatal

Government would eventually be quite free in relation to each other, and the latter was under the obligation only of compelling the industry, by legislation, to behave properly towards the population and the Government itself, as is right in a well-regulated colony. In this law, promulgated in 1870, it was provided, *inter alia*, that from 1870, i.e. nine years after its promulgation, one-thirteenth of the land planted by contract should be done away with each year. In this way there would be no more Governmental cultivation of sugar-cane after 1892.

By the year 1892 the final traces of the cultivation system disappeared. This law, however, aimed not only at freeing the existing undertakings, it also opened up the possibility of establishing new ones. The State had granted concessions which, it is true, had to comply with Government regulations, and rightly so, but left the working entirely free, provided it was carried out in a proper way. Between 1870 and 1892,

In addition to these figures we have the production from the land rented by the State, from that held on a long lease, and also from private estates. This raises the total to 20.2 in 1875, 23.9 in 1876, 24.9 in 1877, 22.9 in 1878, and 23.5 in 1879.

It will be seen that the free cultivation shows a regular progression, which is proportionately much smaller in the Government cultivation, and, at times, practically stops. This is so much the more proof of the favourable influence of emancipation when it is remembered that the best lands were reserved for the factories on the cultivation system, and that, furthermore, the field work for this cultivation was compulsory and preferential. The result of these circumstances was that the cultivation system factories produced more per factory. The production may be stated for the years 1877-79 as ranging between 40 and 100 piculs per bouw. Some factories turned out more, others less. The average production was 60 to 70 piculs per bouw, or at the rate of 23 piculs per bouw, 4,500 kgs. per hectare. This establishment of new free undertakings and gradual emancipation of those existing was immediately attended with a powerful increase of private initiative, both as regards planting and manufacture. The banking and credit system began to develop, and capable and progressive manufacturers were thus provided with the means of introducing radical improvements. Engineering firms sent their agents to Java. The planting, which had been previously in the hands of native employes chiefly, was better attended to and a subject of more careful thought.

In this period, from 1870 to 1886, in which many free factories had already arisen and strongly demanded definite emancipation, we see all sorts of new methods and appliances appear in this industry. Thus Millard, in 1877, introduced the well-known Reymore system, which did away with the older boiling system. A typical fact is that with this introduction, which was as usual accomplished with a struggle, not only were the questions dealt with by the planters and their employes, but also by Government officials. We find, at that time, a polemic between the Chief Inspector of Cultures Van Gorhum, and Dr. Sollenijn Gelphe, Assistant Resident, regarding this method. The first defecation plant (the appliance still mostly used for purifying the sap) was introduced by Gonsalves into the Tjiledock factory in 1877. The first double evaporating plant was introduced in 1872 by Sloet at Poerwodadi, and in 1878 the first triple evaporating plant appeared in Java.

In 1875 carbonating was introduced by Averbeck into the Principality.

A typical proof of the progress made may be furnished by the fact that in 1877 857 steam boilers were in use in the Javanese sugar factories, and only a year later 943.

Even at that time a hydraulic filtering press plant was set up in the Pangha factory. The driving power of the mills, till then chiefly obtained from water wheels, was more and more provided by steam engines. Engelhard proposed "ampasas" maceration and imbibition. This gave the impulse for a better extraction of the sap by the mills. In 1878 there was already some talk of the use of a cane cutter for dressing.

We find also during those years repeated discussions on the use of chemical guidance and more expert guidance generally in the factory. It is true the necessity of this had been previously pointed out (Krajenbrink, 1861). As long as the cultivation was on Government dependence, however, this counsel

fell on deaf ears, as did the proposal made in 1860 by Jhr. Van der Wijck for erecting experimental stations. In 1883 the idea of syrup imbibition in boiling was first proposed. Trials of diffusion were made about this time.

Before that time many considerable plants and improvements had been introduced, when in 1836 the first vacuum pan, in 1853 the first centrifugal machine (at Wasoe, by Dolder), and in 1861 sulphuric acid were applied. It is significant, however, that whilst in 1836 the first vacuum pan reached Java, in 1856, i.e. twenty years later, only about half the cultivation system factories possessed these appliances. If we compare herewith the rapid progress after 1870 we shall see distinctly the happy result of emancipation. With this powerful development in the industry there was coupled an increased feeling of community of interests and the coming into life of a powerful association. Hence everything seemed to point to a certain, strong and steady progress, when suddenly two causes arose which

fell suddenly from Fl. 14 to Fl. 10, and even lower. There it remained for some years. Eventually the cost of production was brought into line with this lower selling price. Then in 1880 a further drop occurred, owing to changed conditions in Europe following a conference held in Brussels. Protection in Europe made it probable that the prices would fall even lower, and it was anticipated that the average selling price during the next few years would be about Fl. 6. The Spanish-American war caused a decrease in the production of Cuban sugar, with the result that an increase occurred during the following year, the price standing at something like Fl. 7. Afterwards great fluctuations were recorded, due to good or poor harvests and the demands of America. Thus in 1902 the sudden drop to Fl. 4.50 or Fl. 4.75—which has already been mentioned—occurred, and this price slowly improved till Fl. 5.50 was reached; the figure was maintained throughout 1903. In 1904, consequent upon the application of the Brussels Convention agreement, prices fluctuated between Fl. 5



A CLEARING.

most seriously menaced the continued existence of the industry, namely, the serch disease and the crisis.

To these two causes it was due that a new period began with the year 1886. In this year it became clear to the planters that two great misfortunes threatened the sugar industry with entire destruction. The crisis consisted in the fact that the selling prices of sugar fell to an amazing extent, thus causing the planters and makers to suffer repeated heavy losses. This drop began as early as 1884, and continued until 1902. During this later year, as low as Fl. 4.50 per picul was paid for muscova. It is true that during this period better and even satisfactory prices were paid, but on an average the market transactions were unfavourable in comparison with the cost price, and the instability was a great danger to the industry. Different causes helped from time to time to bring about fluctuations in the price. The first decline began in 1884 as the result of over-production, which caused the market to

and Fl. 5.62}, until in 1905 a big rise took place and Fl. 8 or Fl. 9 was reached. Owing to the economic measures adopted in Europe the surplus on the markets of the world, and even the normal stock, was consumed, while the notorious speculations of Jaluzot and Cronier were also responsible for the increased price. Almost simultaneously the serch disease in the cane appeared. A report of a serious character was first published in 1883. The serch disease, which gradually extended from West to East Java, speedily assumed great proportions. All that had been built up by fortunate circumstances and energy threatened to collapse, but, as often happens, in this case likewise the industry profited by the misfortunes with which it was visited, although many individuals were involved in complete financial collapse. An enlightened manufacturer pointed out that the crisis and the serch disease would teach the planters trade and agriculture. He might have added to this that the crisis would teach them also how to

prepare sugar in the cheapest way. The first result of both misfortunes was to make everyone realise that something must be done, and that only powerfully combined work could save the cultivation.

At the outset, things did not go very smoothly, and people often failed to perceive that mutual sacrifice of small interests and rights was necessary in order to achieve what was by far the most predominant interest, the salvation of the industry.

It was fortunate, however, that the cultivation had already existed in freedom for some years. Before these catastrophes it had been felt that there was still much requiring improvement in planting and manufacture, but it was only after closer association that a better understanding was arrived at as to what were the needful and useful steps to be taken.

First came the erection of experimental stations and the establishment of a trade paper; then the convening of the first congress, the establishment of the General Syndicate and the holding of exhibitions. All these useful and necessary measures came

any direct interest in or interfered directly with the culture, it ceased to be benevolent in its attitude, and several of its officials actually took up a more or less hostile attitude towards the industry. The remedying of the abuses, the origin of which was in no small degree due to the Government itself, was suddenly and energetically taken in hand, notwithstanding the parlous condition brought about by the crisis and serch. It was stated repeatedly that the sugar cultivation was a misfortune to the population, and even up to the present time many officials are not yet convinced of the contrary.

It will be readily understood that to men who thus carried their opinions to extremes the disappearance of the cultivation would be regarded as no misfortune, and, therefore, they cared little what detriment they might work to the industry.

From the economic point of view it must be acknowledged that this question is a difficult problem. The point to consider is not only the more or less favourable benefits to the population but also the reverse of the medal in the shape of the moral effect. The

is also indispensable that he should learn how to work productively and accumulate capital. This is not possible otherwise than by regular work and alteration of the character of the people. It is surely an impossibility for a mother country with a population of 5,000,000, under the present difficult fiscal and political circumstances, to form a colony of more than 30,000,000 natives into a productive nation within a measurable time. Indeed, the natives are lacking in everything tending to that end, alike in knowledge, character and disposition. Utopists who are of opinion that the imparting of knowledge alone is a sufficient means either do not know the native or have personal motives, or, again, they are entirely obsessed by economic principles which are only correct under certain circumstances even for civilised peoples. In this case, if ever, it is true that an ounce of practice is worth any quantity of theory. History gives a number of examples which prove that a people cannot be changed all at once. A race weakened by ages of oppression, which requires to exert itself little to maintain life, owing to the abundance of tropical nature, cannot be trained up according to an economic recipe into a powerful, self-conscious, industrious and saving people. Only the force of circumstances and the influence of example can effect this. If people will persist in regarding it as a misfortune *à priori* that the free native becomes a wage-earner, they must also accept, as a consequence, the development, without the assistance of the mother country, of the native left to his own resources, which will be an extremely slow process. If it is deemed a duty to convert the Javanese as rapidly as possible into a powerful, economically strong people, it is in that case an indispensable requisite that the native should himself contribute by regular work and by accumulating capital, and whether that takes place in the service of the sugar industry or in the service of other employers is of little importance, as by individual effort he will never do it.

It should not be forgotten that the sugar factories, which usually accumulate in a region favourable to culture, are not very favourably placed towards the wage earner. It is no rare thing for the native to make his demands; and this, in the course of economic development, will occur more and more frequently in proportion as the Javanese becomes more conscious of the value of his work and his soil ownership, and as that work and that ownership acquire more value by greater productivity. And that the sugar industry really teaches the Javanese that good and regular work has a splendid result for him is evident from the factories, some 180 in number, in Java, which in the course of time have been seen to be trade schools for the natives, such as no single state could erect. A good deal of responsible work in the factories is done by native workmen and foremen trained in the factory itself.

It need scarcely be said that for this purpose the most intelligent, and above all the most diligent and reliable, persons are selected. The astonishing increase of factories has caused the need of skilled workmen to be more and more directly felt, and the remuneration of these foremen and workmen is certainly much better than that of the average workman at home. The native sees from this how regular work, industry, and reliability are the three factors which can lead to greater prosperity, and greater prosperity directly results in the possession of means for development.



CUTTING THE CANE.

about between the years 1886 and 1895, and will be dealt with more fully. Previous to this, however, it will be shown how slightly the Government assisted this energetic work of the manufacturers.

IV. INFLUENCE OF GOVERNMENT INTERFERENCE ON THE HISTORY AND DEVELOPMENT SINCE 1886.—To those who have perused the preceding pages attentively it must be clear that vicious conditions had arisen in the sugar industry as the result of Government interference and its cultivation system. It was clear that all the abuses which had arisen could not be done away with at a stroke of the pen. The persons who had necessarily had recourse to these abuses, with the connivance and even benevolent consent of the officials, remained the same. Ruin threatened the culture, owing to the serch disease and the crisis, so that there was no favourable flourishing condition of the sugar industry to contribute to a more rapid disappearance of the malpractices which had sprung up.

Now that the Government no longer had

Javanese, in those regions where he did not work in the service of the planter and manufacturer, was a perfectly free and independent agriculturist. Owing to the introduction of European methods of cultivation, he became a wage earner. This is certainly a drawback to the industry, but the peculiar thing in this case is that those who point it out are the very people who inscribe emancipation and development of the native on their banner.

If we examine how much the Javanese himself pays yearly into the Treasury we find it to be extremely little, and certainly not sufficient to defray the cost of the measures necessary for his social and economic uplifting. If left to himself the native will not, within any measurable time, advance so far as to be able himself to pay the cost of his development. This is unquestionably only possible by means of intensive, regular and productive work. In order to do this the Javanese must certainly have at his disposal more knowledge and development than he now possesses. But it

To everyone who clearly perceives the signs of the times and can form a judgment about the Javanese, it must be clear that training by work is an indispensable necessity for further development.

If not much assistance was to be expected from the Government and officials generally, as they were to a considerable extent not well disposed towards the sugar industry, the direct Government aid was of little importance, and always testified to anything but a friendly disposition.

Thus the Government three times refused to subsidise the experimental station at Pasoeroean. The 1894 Regulations for the starting of industrial undertakings; their modification in 1895 (by which certain regions were closed temporarily to sugar cultivation); the Order of 1899 for the direction of the economic interests of the population, in so far as it is related to the starting of new undertakings; the Order of 1900, by which the maximum extent of plantation was specified; the Order of 1905, by which manufacturers were required to maintain the roads used by them (and also by others), and which had been made by forced labour; by their very titles indicate that sugar cultivation was regarded as a business which became more injurious to the population as the industry extended.

The suspension and abolition of the heavy excise duty imposed upon land, the remission of which was only obtained with difficulty and after long delay—also gave but slight proof of the willingness of the Government to assist the industry. This delay was all the more unreasonable as the industry in Holland (which had only the decline in prices to contend against, and not the *sereh*) had been materially assisted. A similar delay took place with regard to the reduction of transport rates on the State railways. One of the most vital factors in the cultivation of sugar—*i.e.*, irrigation—received but scant attention from the Government, no improvements of note being brought about.

Even in the regulations for safety in factories and workshops little allowance was made for actual practice and for the character of the Javanese people.

If, therefore, the general economic view of the Government is not favourable to the cultivation (in my opinion, wrongly, from the point of view of the development of the Javanese), it must be acknowledged that in later years a more honest and rational application of these principles has been perceived. Recently, there has been a good deal of agitation owing to the action of the Government making it difficult for planters to secure the necessary area for cultivation. The Government proposed to exercise strong influence on the system of advances of rent. If the new system were adopted, the Javanese, who is always bent on securing some advance, to some extent would miss the advantage he secured under the old regulations, and, in time, would be less disposed to rent out his ground.

It is clear that the Government could not remain entirely deaf to all complaints and requests for help by the planters. Thus the export duties on sugar were temporarily suspended in 1895. In 1906 the regulations for the maintenance of the roads were temporarily withdrawn, while the money which had been paid was refunded.

Assuming the *sereh* disease to be contagious, the Government also regulated the conveyance of planting material from infected to uninfected regions. In 1905 it was ruled that the Director of Internal Administration might definitively refuse applications for

extension of plantation, &c., but that an appeal lay to the Governor-General.

Some assistance on the part of the Government cannot be denied in regard to another evil which wrought injury to the cultivation. The population frequently set fire to the cane from motives which have nothing to do with the vexations or disadvantages suffered. Steps proposed by the Resident of Besoeki which were a heavy pressure on the population were granted. The experimental station of Pasoeroean was enabled by Government help to import varieties of cane from other countries.

Of great importance, furthermore, was the *sereh* investigation carried out by Dr. Treub at the 's Lands Plantentuin (plant garden of the colony). Although this opened up new points of view, there has been no satisfactory explanation of the cause of the disease, nor has there been discovered any adequate means of combating it. It is true that a good empirical method of fighting it has been discovered by one of the experimental stations, but it is far too costly for practical application. Speaking generally, without exaggeration it may be stated that the

predicted that the struggle between the economic views of the Government and the interests of the sugar industry will now be carried on fairly and squarely, and that there will be room for mutual appreciation where hitherto there was frequently mutual distrust in a high degree.

V. THE DEVELOPMENT OF THE SUGAR INDUSTRY FROM 1886 UNTIL TO-DAY, TOGETHER WITH THE PLANT AND INSTALLATIONS ADOPTED AND MEASURES TAKEN. — (a) *Experimental Stations*. During a brief period of time, and precisely at the critical moment, several experimental stations were established, namely:—

In 1886 the experimental station of Kagok (May 15).

In 1886 the experimental station of Semarang.

In 1887 the experimental station of Pasoeroean.

In 1891 the experimental station of the Klatenske Cultuur Maatschappij.

It might have been anticipated that at the outset the contact between science and practice would give rise to friction. Therefore it was not to be wondered at that everything



SELECTION AND PREPARATION OF THE CANE "BIBIT" FOR PLANTING.

Government has done little to save or assist the suffering industry. The greater then is the honour due to the planters themselves, who, by energetic and concordant work, have been able to raise the production of sugar in Java into an extremely profitable business, and have been able to induce the Government to appoint their Central Association, "The General Syndicate of Sugar Manufacturers" in Java as an advisory body to the administration. This is a great achievement, and the advantage, which must not be underrated, of this regulation is that it is now implicitly acknowledged that the sugar industry has the right to exist, and that those who carry on that business are not persons who make it their special work to enrich themselves at the cost of the population. The brilliant results which the sugar industry obtained by its own strength in an honest and rational way have compelled respect, and the Government was unable to elude this compulsion. It may be

did not go quite smoothly at the beginning, and difficulties often arose between the staff of the establishments and the persons requiring their aid. Furthermore, it was a time of nervous tension, because many owners saw their business pass into other hands, and those who were able to keep their heads above water were filled with the worst apprehensions for the future.

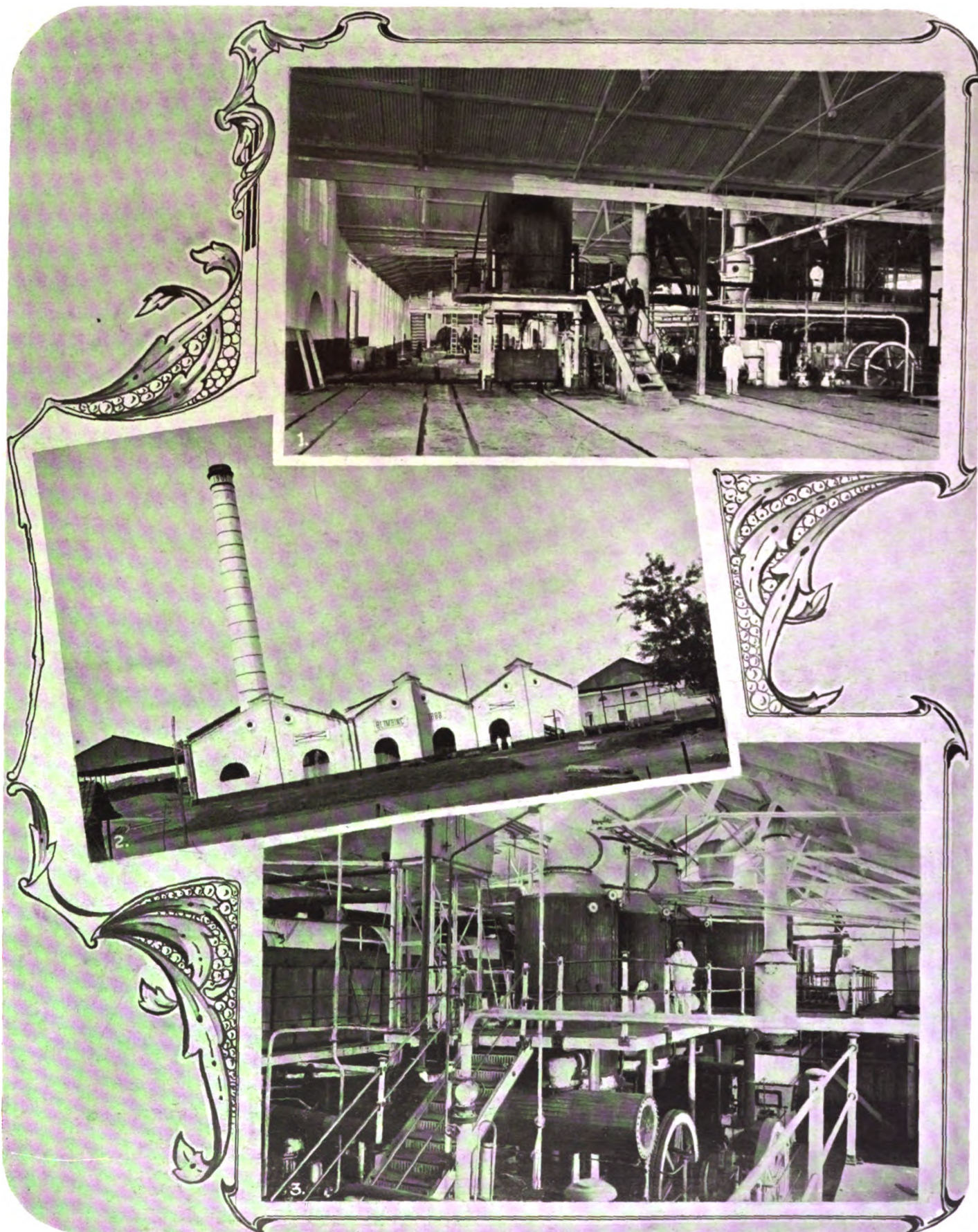
The experimental station of Semarang had for its first director Dr. Soltwedel, who was the first to show the possibility of the sexual propagation of the cane, and gave a remedy for the *sereh* plague, namely, the obtaining of the cane cuttings for planting from the mountains (with the strictest possible selection). Soltwedel's impression was that the cane from the seed showed no noticeable difference from that obtained from slips.

Soltwedel also went to British India in the interest of the sugar industry. On returning from a journey of this kind he died suddenly on December 17, 1889. His great merit lies



REPRESENTATIVES OF THE SUGAR INDUSTRY IN JAVA.

1. JHR. J. C. VAN HOLTHE (Head Administrator, "Delangge" Sugar Factory).
2. JHR. H. C. VAN DER WYCK.
3. A. A. VAN BLYENBORGH (Manager, "Sidaloe" Sugar Factory).
4. W. E. VAN DEN BOSCH (Manager, "Wondosch" Sugar Factory).
5. S. DE KAUWER (Manager, "Kedaton Ploet" Sugar Factories).
6. J. C. SOETERS (Manager, Kendal Sugar Factories).
7. A. G. BOESCHEN (Manager, "Delangge" Sugar Factory).
8. C. L. B. JOUQUET (Manager, "Landjong-Modio" Sugar Factory).
9. C. VON BORNEMANN (Manager, "Sewoe-Galoor" Sugar Factory).
10. G. TH. E. R. ARNOLD (Manager, "Gondang-Winangoen" Sugar Factory).
11. J. VAN ROESVOLD (Manager, "Barongan" Sugar Factory).
12. J. SICHTENBREE (Manager, "Balong Bendo" Sugar Factory).
13. J. C. POTTER (Chief Engineer, "Ombul" Sugar Factory).
14. C. J. G. VAN DEIN (Manager, "Ngelom" Sugar Factory).
15. H. C. C. FRANSSEN (Manager, "Bodong" Sugar Factory).
16. F. WYBRANDS (Acting Manager, "Ombul" Sugar Factory).
17. A. R. KNIPERS (Assistant Manager, "Sewoe-Galoor" Sugar Factory).
18. J. E. W. VAN VLOTEN (Manager, "Sempalwadak" Sugar Factory).
19. R. E. N. SOETMAN (Manager, "Soember Karceng" Sugar Factory).
20. I. G. DOM (Manager, "Telbongan" Sugar Factory).
21. K. T. STAEKMAN (Manager, "Modio" and "Kedawoeng" Sugar Factories).
22. C. M. VAN ARKONDE (Manager, "Rewoeloe" Sugar Factory).



See page 362.]

"BLIMBING" SUGAR FACTORY, DJOMBANG.

1. VIEW FROM GODOWN, LOOKING INTO EVAPORATING HOUSE.

2. FACTORY.

3. EVAPORATING HOUSE.



"RANOE PAKIS" SUGAR FACTORY, KLAKAH.

1. BOILER HOUSE.

2. FACTORY.

3. EVAPORATING HOUSE.

See page 702

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in having made it possible to cross various varieties of cane. He was followed by Dr. Benecke, who was able to transfer the experimental station to Klaten in 1891, where it slowly fell into decay.

The other experimental station at Klaten had for its first director C. J. van Lookeren Campagne; for its second, J. C. Boot; who was in turn followed by J. S. de Haan. This experimental station was more a central laboratory of the factories of the *Klatensche Cultuur Maatschappij*, with a small staff. At the outset, it was intended less as a sugar-testing station than as a central establishment for all the cultures of the said Company, *i.e.*, sugar, tobacco and indigo.

The Kagok experimental station had for its directors Dr. Wilhelm Kruger, Dr. F. C. Went, and H. C. Prinsen Geerligs. The latter was followed by the present writer in 1908.

Geerligs and Dr. Van Breda de Haan as assistants. With Dr. Went begins a flourishing period for Kagok (1891). In 1897 Went was appointed professor in the University of Utrecht, and was followed by Prinsen Geerligs. Meantime, Van Breda de Haan had passed into Government service.

In January, 1905, the writer was appointed assistant director, and in August, 1905, F. W. Bolk was made chief of the technical department, which was then brought into existence. In 1906, on behalf of the planters of the Principality, an agricultural branch of the testing station was established at Djocja, and one of the assistants at Kagok, W. van Deventer, became its chief.

An interesting event in the history of this experimental station was the transfer of the building from Kagok (in the interior) to the residence and chief city of Pekalongan in the year 1900.

progressed that a great manual for the sugar industry was published by him, forming a brilliant testimony to the work of this experimental station in general and of Prinsen Geerligs in particular.

The most important events during the management of Prinsen Geerligs were:—

1896. The appearance of the first (small) guide or manual on sugar manufacture.

1897. Introduction of mutual control.

1898. Introduction of arbitration for sugar polarisation.

1903. Beginning of the sale of testing and standard appliances for practical use.

The appearance of the small handbook in 1896 was important. This was the framework on which gradually all fresh discoveries were built, and was the basis of the great manual of Prinsen Geerligs. Mutual control, *i.e.* the recording in collective statements of the results of the chemical analytic control



PROEFSTATION, OOST-JAVA (EXPERIMENTAL STATION, EAST JAVA).

1. EXTERIOR.

2. CHEMICAL LABORATORY.

3. BOTANICAL LABORATORY.

The experimental station of Kagok, like that at Pasoeroean, has been able to secure a high reputation in the scientific and technical world. In later years its history has been closely bound up with that of the similar station at Pasoeroean, and in 1907 both establishments were combined under the name of the Experimental Station for the Java Sugar Industry, which is divided into three departments—a botanical and agricultural, established at Pasoeroean; and a chemical and technical department, both established at Pekalongan. Kruger remained for five years at the head of Kagok, and was then followed by Dr. Went, who had Prinsen

It would be impossible to deal fully in this article with the work of Kagok and its influence on the sugar cultivation, but the more important points may be given in brief outline.

In its advisory work this experimental station has exercised a great and wholesome influence. New methods of work met with support, and were frequently directed into the right paths. Factory experience concentrated in the experimental stations, and there gave rise to the study of many questions which in turn resulted in the publication of a number of treatises. On the resignation of Prinsen Geerligs, this study had so far

by the factories which desired to join therein, was proposed by Carp. Energetically introduced by Prinsen Geerligs, it was of great utility by reason of the results and conclusions which followed. The determination of the rules for mutual control brought about an almost complete uniformity in the analytic weighing and measuring methods which, owing to the care with which they had been previously studied, appeared to offer the guarantee of being permanently satisfactory.

The close connection which Kagok was always able to maintain with practice was one of the chief reasons why it flourished, whilst it was also lucky in the choice of staff.

Gradually the work of an agronomic, or agricultural character, was thrust more and more into the background at Kagok, whilst at Pasoeroean the very opposite occurred. This resulted in the amalgamation, in 1907, already chronicled.

In 1910 the department of Pekalongan is to have the following staff:—

Chemical department.—A director, a secretary, five to six assistants, and a mathematician.

Technical department.—A sub-director, two assistants.

Pasoeroean had three directors, namely: Dr. Kramers, Dr. Wakker, and J. D. Kobus. This trial station flourished above all under the last-mentioned.

If it was not easy to depict briefly the direct influence of Kagok on the development of the sugar industry, it is still more difficult to do this with the work, likewise highly fertile, of Pasoeroean. The work carried on there was also directly connected with practice. Selection, crossing and manuring trials greatly enlarged our knowledge, and Pasoeroean has certainly contributed, above all by advisory work, in no small measure to the great rise in production per unit of surface. Pasoeroean, furthermore, was busily engaged in importing cane species from other countries. By this means crossings of different varieties became possible. Pasoeroean itself supplied some varieties, of which, above all, cane No. 100 contributed very considerably to enlarging the production per unit of surface.

This question of the different kinds of cane interested trial stations and the practical planters, and it is therefore not possible to describe it rightly under the heading of the work of the experimental stations alone; for this reason it will be dealt with in a separate chapter, which at the same time will describe the measures taken to combat the serch. In the history of the trial stations there must further be commemorated the erection of the new building at Pasoeroean (1904), travels abroad of the staff of Pasoeroean in order to obtain new varieties, the necessity of combating fresh pests, i.e. the borer pest and the dongkellan sickness, and the voyages of the directors of the experimental stations to Europe as representatives at congresses.

As already stated, it was very difficult to describe the work of the experimental stations in conjunction with the development of the industry, owing to the very large number of results obtained. At the close of this article statistics are given from which the progress of the industry during the last fifteen years may be seen, and it is certainly no exaggeration to ascribe this amazing development to a considerable extent to the work of the experimental stations.

(b) *Species of Seed Cane and the Serch Disease.*—After Soltwedel had shown that the cane could be sexually propagated, Moquette, the owner of a sugar plantation, improved the technique of this operation. In this way crossings became possible, and there arose the very interesting varieties G.Z. No. 100 (for the development of which we are indebted to Moquette & Wakker) and G.Z. 247 (Bouricius).

Not only by their greater production of sugar per unit of surface (on certain soils), but likewise owing to their powers of resistance to serch and other diseases, these species were of great benefit to the Java planters. The cost of planting of the Cheribon cane, formerly generally planted, was considerably increased by obtaining the plant cuttings from the mountains. It has been found, however, that this is the proper and adequate way to fight

the serch disease. This advice had been given by Dr. Soltwedel, and although he proceeded upon certain theoretical bases, which later were not proved, the advice nevertheless appeared to be correct.

The trial station of Pasoeroean is still continuing the study of crossings, some of which may be of importance for the future.

(c) *Improvement in Manufacture, Planting, and Trade, not Originating with the Experimental Stations.*—In the year 1893 appeared the first handbook for factory work by J. Mulder, and in that same year trials of imbibition were first made by Dr. Winter at the factory of Soekoredjo.

In the year 1894 the Bock drum was introduced at Ngelom.

In 1895 the Cheribon Association of Sugar Manufacturers petitioned for abolition of the export duties on sugar. The Government acceded to this request, and after the people's representatives had given their approval to the proposal of the Indian Government, this duty was temporarily suspended. In that year the first furnace for heating with white ampas was spoken of; a number of different kinds are now in practical use, as the following list will show:—

1883.—The Godillot furnace (Djatiwangi).

1885 6.—The Bub furnace.

1888-9.—Improved Bub furnace (Kersten).

These were followed by several others. In the same year the dongkellan disease first made its appearance, the same which was to do so much damage later on. Notwithstanding energetic investigations by the experimental stations, carried on at great sacrifices, it was found impossible to obtain any explanation of general application with regard to this disease or any means of combating it.

In 1897 Jantzens obtained good results with imbibition which allowed of working direct for crystalline sugar and molasses. Eventually this method was improved by Pasma. In the same year Winter drew up his formula of yield, which is now altered but did good service. In 1899 Carp framed a better formula, which was afterwards modified. In 1899 a Deming installation was established.

In 1903 the question of preparation of "molassuite" was gone into seriously, whilst in 1905 several defecation factories began to make white sugar, a good market for which was found in British India. A uniform and concordant action between trade and industry was at the same time arrived at with regard to more rational conditions of sale and the fixing of the refinery yield.

In 1907 complaints were received from Japan regarding the quality of Java sugar, which gave rise to considerable improvements in the manufacture, which are still being continued and completed.

(d) *Archives of the Java Sugar Industry.*—These were established in 1893, and in January, 1908, contained no less than forty massive volumes. Originally an independent undertaking, it has been included in the work of the General Syndicate since 1896. The Sourabaya circulars, which record many things worth knowing in regard to sugar cultivation and production, may be regarded as the precursors of the archives.

(e) *The First Congress and Exhibitions.*—In 1880, during the critical period in the history of the industry, the first Congress was held at Sourabaya at the instigation of one of the local associations.

By the interchange of ideas on important and urgent questions, the Congress had a great direct influence. One outcome of this Congress was to emphasise the fact that only

loval and strongly combined action, putting aside petty local or individual interests, was necessary in order to save the cultivation. A country like Java is not particularly adapted for exhibitions. The three exhibitions of interest to the sugar industry are those of 1893 Pasoeroean (Sugar Exhibition), Batavia (Agricultural Exhibition), 1908 Modjokerto (Sugar Exhibition). These exhibitions, although a good deal of work had been devoted to their preparation, were not attended with the anticipated success. Generally the time of preparation was too short, and it was found to be a difficult matter to provide the elements which make an exhibition attractive.

(f) *Local Associations and the Syndicate.*—When the draft articles of the Syndicate were legalised in 1894, all the local associations which had each independently achieved much that was interesting, were merged for the most part direct in that body. The first president was Mr. Jacob, who had given a great impulse to the establishment of this valuable body. Until 1900 he filled this important office, and was then followed by Van Musschenbroek, who deserved well of the industry owing to the powerful and progressive way in which he conducted the syndicate. Both were appointed honorary members, certainly a well-deserved distinction.

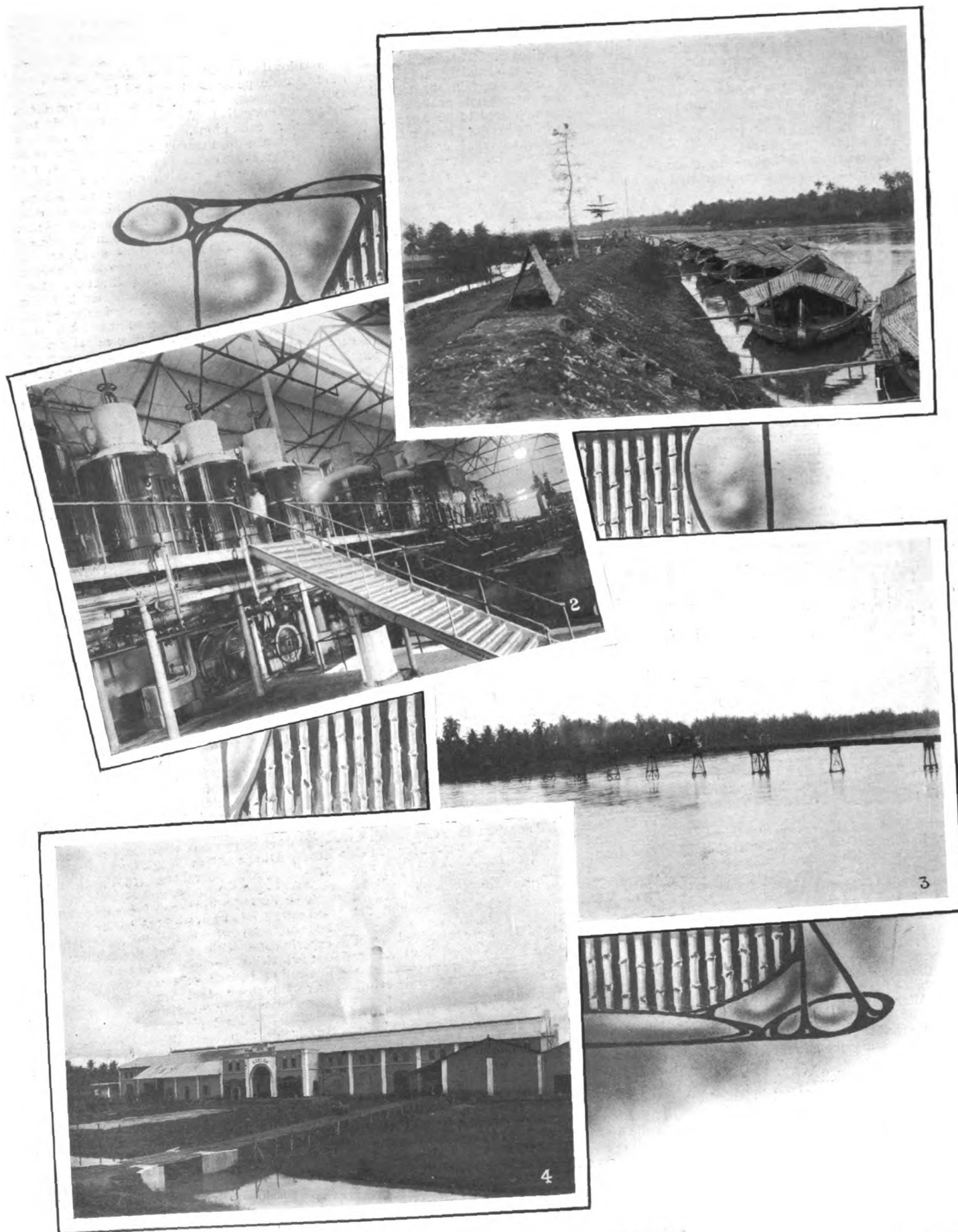
In 1907 Musschenbroek was followed by De la Valette, who presided over the association only for a short time, being followed in 1909 by Paets van Gansoven.

The sphere of action of the Syndicate is a very wide and diverse one. In the first place, it repeatedly directed petitions to the Government, frequently with success. For instance, the Government, on the application of the Syndicate, was prepared to direct into better ways those suppliers of plant cuttings whose practices were not in every way desirable, also to allow a reduction on the transport of sugar by the State railway, to contribute to the improvement of the animal stock, to postpone the introduction of a new law relating to steam boilers, to provide for the needs of small currency, &c.

December 24, 1906, is an interesting date in the history of the Syndicate; from then dates its appointment by the Government as an advisory commission. Under the auspices of the Syndicate the following regularly-organised congresses were held:—Sourabaya (1899), Djoeja (1898), Bandoeng (1899), Semarang (1900), Sourabaya (1901), Semarang (1903), Sourabaya (1905), and Sourabaya (1907).

The great importance of these congresses cannot be rated too highly. They constantly brought the Syndicate management, the experimental stations, and the planters into contact with each other, and both the interesting reports of those congresses, and everything else that was discussed in a more intimate way, certainly materially contributed to developing the industry. The Syndicate also established regular prize competitions in various forms, some of which were crowned with success. Various inquiries were also instituted, namely, into the unsettled advances on the transport of cane, into the cause of cane fires, into the subject of cane transport, and into the economical influence of the sugar factory on the population in its neighbourhood.

From time to time the Syndicate has taken up the matter of the patenting of inventions. The Government held the view that a patent law was contrary to its economic principles. The pressing necessity for some such regulation led the Syndicate to take the matter in hand itself, and to make regulations by which patents were granted by the Syndicate. On the application of the



See page 307]

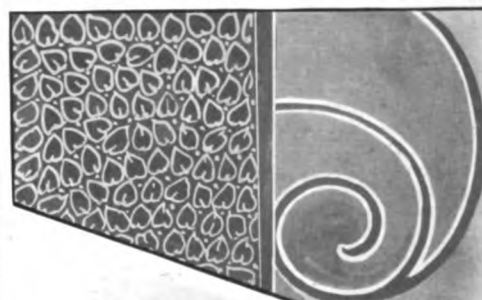
1. LIGHTERS FOR TRANSPORT OF CANE.

2. INTERIOR OF FACTORY.

"NGELOM" SUGAR ESTATE. DJOMBANG.

3. BRIDGE OVER THE BRANTAS, WITH A LOAD OF CANE.

4. THE FACTORY.



"BALONG-BENDO" SUGAR ESTATE, KRIAN.

[See page 397.]

1. INTERIOR OF FACTORY.

2. THE FACTORY.

3. EMPLOYEES' DWELLINGS.

4. PREPARING THE "BURL"

Syndicate, the trial stations assisted in bringing about general regulations for the carrying out of tests of factories, &c. At the suggestion of the Syndicate, regular rainfall observations are also made at a number of places.

The Syndicate grants scholarships to industrious pupils. An annual is published yearly as well as a directory, comprising the names of all those engaged in the sugar industry.

A fusion which had been planned of all the establishments useful to the sugar industry led to a partial result. The trial stations remained self-governing, but the archives became a subordinate part of the Syndicate in the year 1906. A small rebellion in the residence of Sourabaya, which was wrongly regarded as a result of the sugar cultivation, was dealt with separately and independently by the Syndicate in a report.

Finally, the important fact must be mentioned that the Syndicate, at great financial outlay to itself, appointed a committee in Holland to take charge of its great interests with the Government in the home country.

CONCLUSION.—In the preceding pages an endeavour has been made to give in the most succinct form, a review of the development of the sugar industry in Java, and to show how this development is entirely due to the energy of the residents of this Colony who are interested in the sugar industry.

A full description of the gigantic work which has been carried out is a task that could not be attempted; many things which had an unmistakably favourable influence have not been discussed, but an attempt has been made to set out all those facts which had a direct effect upon the industry. The development may be judged by the following figures, in which the averages for each three successive years are comprised:—

Year.	Number of factories.	Total production in millions of tons.	Average output in piculs per factory.	Average sugar production per bahoe.
1893-5 ...	192½	0.54	45,852	86
1896-8 ...	187½	0.61	53,260	92
1899-1901	102½	0.77	68,265	96
1902-4 ...	179	0.97	87,575	108
1905-7 ...	175½	1.11	101,915	116
1908 ...	178	1.24	112,970	121

These figures do not require much explanation. One may be struck, however, by the reduction in the number of factories, which is a consequence of the amalgamation of several small concerns and of the disappearance of the more feeble undertakings.

So great an extension of the industry in conjunction with so large an improvement in its methods, so that about 50 per cent. more sugar is obtained per unit of surface, is more eloquent than whole volumes could be with regard to the energetic way in which this industry is carried on.

STATISTICS AND PRICES.

The statistics of the Java sugar crop make interesting reading even to the uninitiated, while the comparison of prices during the past ten years or so throw an important side-light upon the industry. The following quotations of prices are taken from Czarnikow's Weekly List, and are for cargoes off coast for United Kingdom. They are the prices quoted for the first week in each year

mentioned, and show the fluctuations which have taken place:—

Year.	Strong Java, No. 15. D.S.	Java, 96 per cent. polarisation.	Java. Black Stroops.
1907	10 6	10 3	7 3
1906	9 6	9 3	7 -
1905	16 -	15 9	10 - to 10 3
1904	9 6	9 3	6 9
1903	9 6	9 3	6 9 to 7 -
1902	8 6 to 8 9	8 3 to 8 6	6 - to 6 3
1901	12 - to 12 3	11 9 to 12 -	8 6 to 8 9
1900	11 6	11 - to 11 3	8 6
1899	11 6 to 11 9	11 6 to 11 3	8 -
1898	11 3 to 11 6	—	8 3
1897	11 3	—	7 4½ to 7 6
1896	12 9 to 13 -	—	7 6 to 7 9
1895	11 3 to 11 6	—	6 -
1894	15 - to 15 3	—	8 6 to 8 9

From the following figures relating to other raw sugars it will be seen that the American cane is much the superior of the Java product in so far as prices are concerned, although the Madras cane does not secure a much higher price than the Java Black Stroops:—

Year.	Madras Jaggery Cane.	Cuba. Centrifugals, 96-97 per cent. polarisation.	Crystallised grocery, West India, London landed terms, duty paid.	
			Good to fine.	Low to medium.
1907 ...	8 -	10 3 to 10 6	16 9 to 18 -	15 6 to 16 6
1906 ...	7 3	9 3	16 - to 18 -	14 - to 15 6
1905 ...	11 -	15 9	23 - to 23 6	21 6 to 22 6
1904 ...	7 9	9 3	—	—
1903 ...	7 6	9 3	—	—
1902 ...	7 -	8 3 to 8 6	—	—
1901 ...	9 3 to 9 6	11 9 to 12 -	—	—
1900 ...	9 -	10 9 to 11 -	—	—
1899 ...	9 - to 9 3	11 -	—	—
1898 ...	8 3 to 8 6	11 -	—	—
1897 ...	7 6	10 9 to 11 -	—	—
1896 ...	7 9 to 8 -	12 3 to 12 6	—	—
1895 ...	6 4½	10 9 to 11 -	—	—
1894 ...	9 -	14 9	—	—

The statistics of sugar exports from Java show that there was a steady increase until 1905, but then the figures show a decline. The following table is taken on the authority of Czarnikow's Weekly Reports:—

Year.	To Europe and America.	Eastern.	Total.
1897-8 ...	312,001	218,053	530,054
1898-9 ...	468,123	210,939	679,062
1899-1900 ...	504,744	214,376	719,120
1900-1 ...	358,989	308,071	667,060*
1901-2 ...	296,564	400,818	697,382†
1902-3 ...	408,270	423,760	832,030
1903-4 ...	204,900	618,600	913,500
1904-5 ...	520,055	478,448	998,503
1905-6 ...	412,648	480,407	893,055
1906-7 ...	196,032	643,411	839,443

* Consumption, 43,000, making total, 710,000, approximately.

† Consumption, 45,000, making total, 742,000 approximately.

"BLIMBING" AND "RANOE PAKIS" ESTATES.

MR. JOHN CAMPBELL, the founder of the Companies formed to exploit the "Blimbing" and "Ranoe Pakis" sugar estates, is one of the oldest British residents in Netherlands

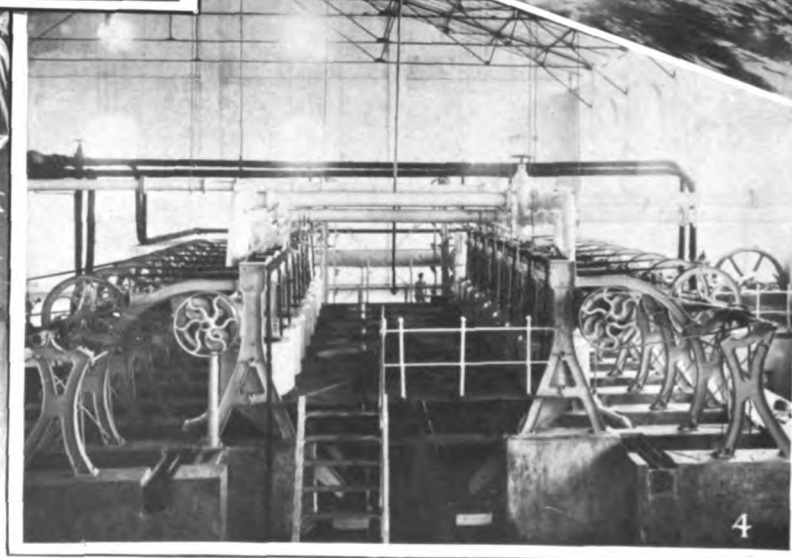
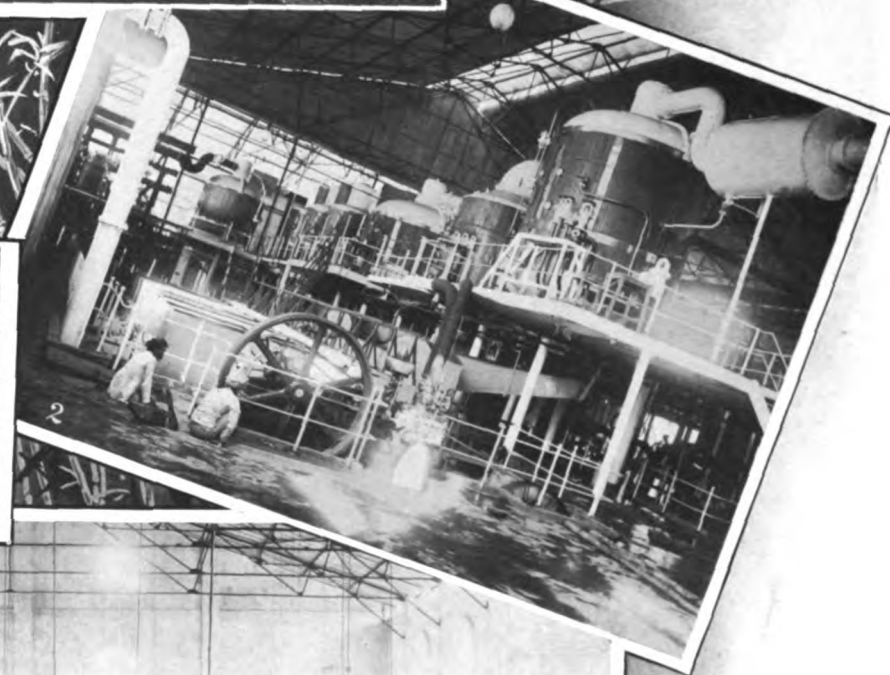
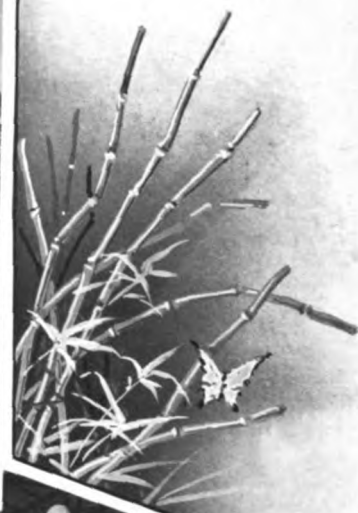
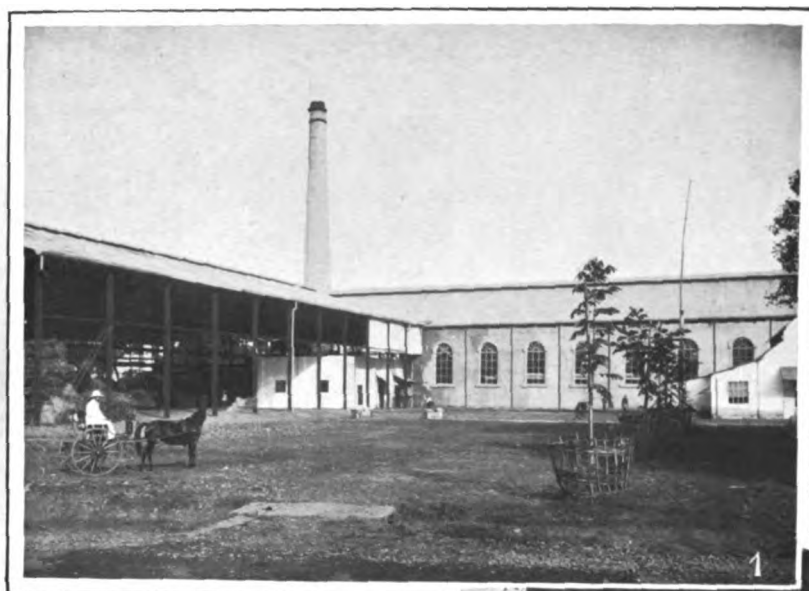
India, having arrived in Java from Paisley in 1870. Since then he has been engaged in many and varied commercial enterprises. In the first instance he turned his attention to engineering, and within three years had started the Kalimas Engineering works at Sourabaya. These he continued with varying success until 1906, when they passed into the hands of a syndicate.

His interests, however, have never been confined to one undertaking. In 1887 he established a company to take over "Blimbing," a sugar estate some 2,000 acres in extent, at Djombang. The estate has been well equipped with modern machinery by Messrs. Campbell, Calderwood and Craig & Co., of Paisley; it has been ably managed and is highly successful, an average year's crop producing 150,000 piculs of sugar. For such a satisfactory state of affairs some considerable credit should be given to Mr. G. C. Walker, the engineer, who for a short time has acted also as the administrator. The present administrator, Mr. P. Dudok van Heel, was formerly with the largest sugar factory in Egypt, the "Nagh-madi," and under his experienced supervision the continued success of the estate is assured.

Another of Mr. Campbell's important and

successful ventures is the sugar estate, "Ranoe Pakis," at Loemadjang. It is fully as large as "Blimbing," but is much younger, and has not yet reached the same measure of production. Owing to the mountainous district in which the factory is situated, Mr. Campbell had to have a railway constructed for the transport of the cane. The same up-to-date system of working as at "Blimbing" is followed at "Ranoe Pakis," and machinery of a similar type is used. The present administrator, Mr. F. A. Erkelens, has had considerable experience in the cultivation of sugar, and has been for several years in Mr. Campbell's employ. Both estates, "Blimbing" and "Ranoe Pakis" are controlled by limited liability companies, of which Mr. Campbell is a director, the capital in each case being G.700,000. Several other sugar estates have at various times passed through Mr. Campbell's hands, but "Blimbing" and "Ranoe Pakis" are the only two in which he takes any active interest now. At different intervals, however, he has engaged in coffee planting, and has experimented in practically all the products of the mountainous regions, and still retains the coffee estate "Kali Padang" and the Seméroe.

Mr. Campbell is chairman of the "Glens" Coffee Estates Company—"Glen Nevis" and "Glen Falloch,"—and is a director of several gold-mining and copper companies. He is a



"SEMPALWADAK" SUGAR ESTATE, MALANG.

1. THE FACTORY.

2 and 4. PART OF THE INSTALLATION.

3. ADMINISTRATOR'S RESIDENCE.

[See page 367.]



[See page 367.]

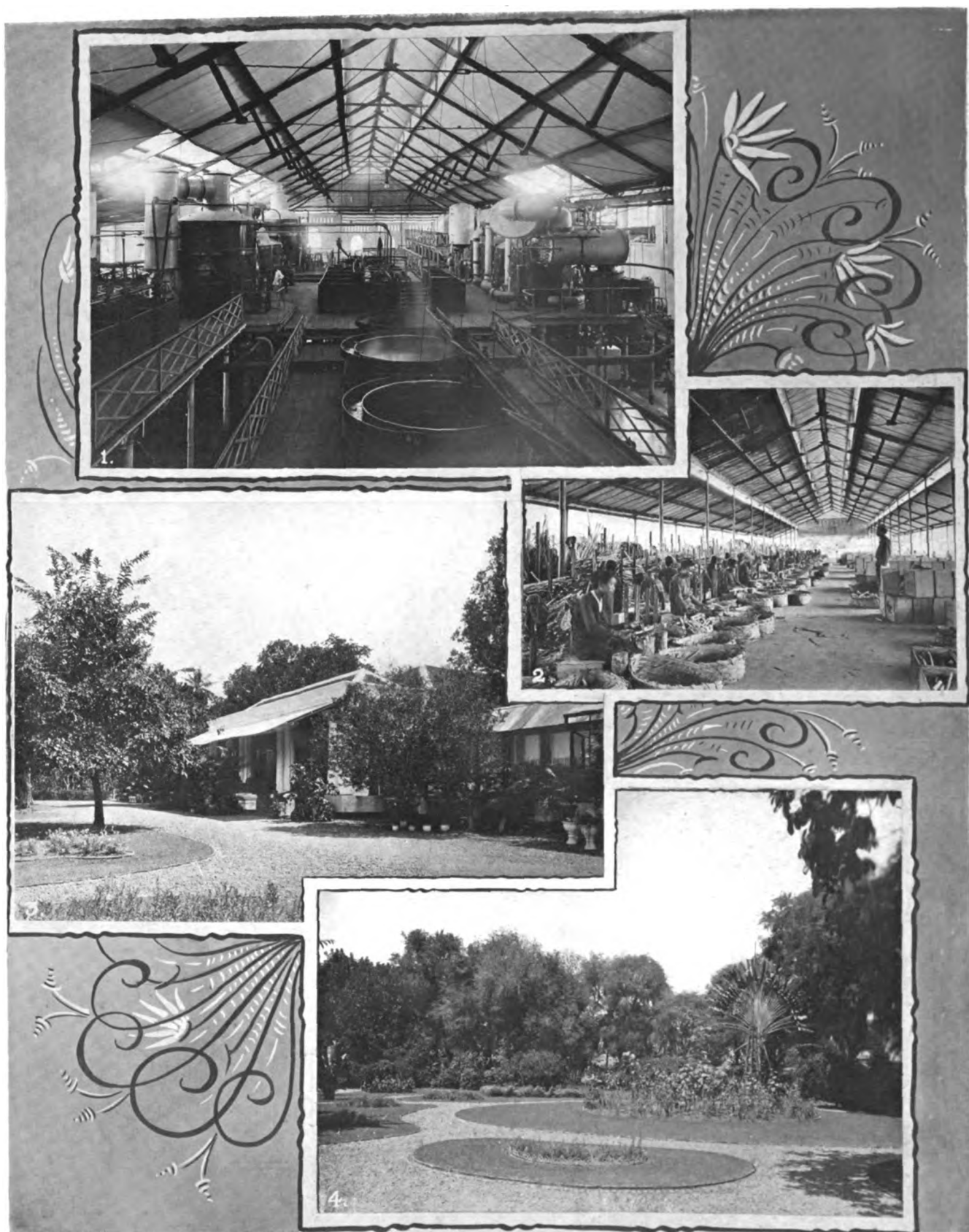
"GEMOE" SUGAR FACTORY, KENDAL.

1. THE FACTORY.

2. EUROPEAN STAFF.

3. ONE OF THE PUMPING STATIONS.

4. INTERIOR OF FACTORY.



"TJEPING" SUGAR FACTORY, KENDAL.

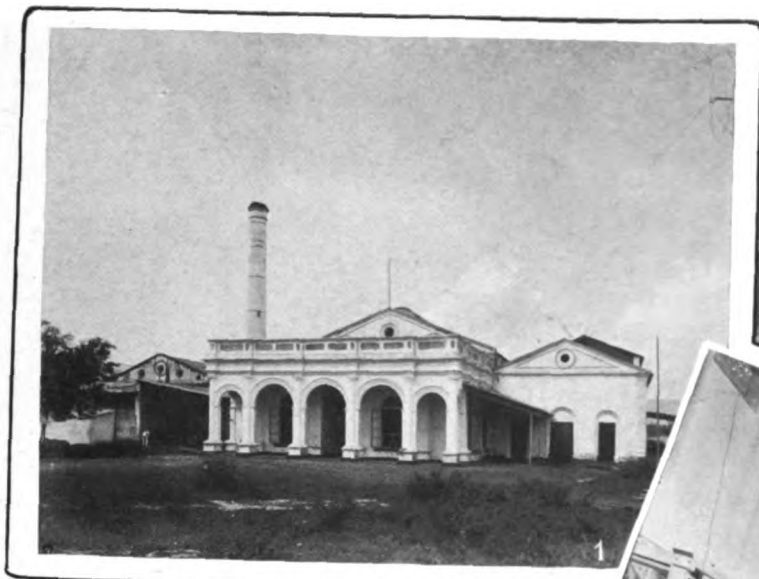
1. INTERIOR OF FACTORY.

2. SELECTION AND PREPARATION OF THE "BIBI" FOR PLANTING.

3. MANAGERS RESIDENCE.

4. GARDENS AT MANAGERS HOUSE.

[See page 37.]



1. THE FACTORY.

"BODJONG" SUGAR ESTATE, POERBOLINGGO.

2. INTERIOR OF FACTORY.

3. TRANSPORTING THE CANE.

4. MANAGER'S RESIDENCE.

member of the Town Council of Sourabaya, and takes an interest in all local affairs.

"NGELOM" SUGAR ESTATE.

THIS estate, consisting of nearly a thousand bouws, with its large and well-equipped factory, is situated on the Brantas river, in the Djombang district, in the residency of Sourabaya. The factory, which has a capacity of 13,000 piculs of cane a day, was erected in 1891, and its installation comprises machinery of the very latest type. The cane is conveyed to the factory by the Company's private railway line, while the areas on both banks of the Brantas river are united by a private bridge. The manufactured sugar is transported by lighters to Sourabaya. The estate employs seventeen Europeans and between three and four thousand natives.

The directors of the estate are Messrs. Fraser, Eaton & Co. of Sourabaya, who have put the general management into the hands of the N. V. Kooy & Co.'s Administratiekantoor. Mr. C. J. G. van Deun, who superintended the erection of the factory, is the manager. Under his management the mill has achieved considerable success.

THE "BALONG-BENDO" SUGAR ESTATE.

THIS estate, consisting of 1,150 bouws, is situated in the district Sidhoardjo in the residency of Sourabaya. It was established in 1838, has on several occasions been rebuilt or remodelled in accordance with the requirements of the times, and only two years ago was finally reconstructed upon the latest principles and given a thoroughly up-to-date and modern equipment. The factory has a capacity of 15,000 piculs a day. The cane is transported to the mill, part by rail, part by bullock carts. The sugar is exported to Sourabaya by lighters.

The estate gives employment to seventeen Europeans and about four thousand natives. The owners are the Cultuur Maatschappij "Balong-Bendo" of Rotterdam, which is represented in Java by the N. V. Kooy & Co.'s Administratiekantoor at Sourabaya.

Mr. J. Slichtenbree, the manager, is a native of Deventer, Holland, who since his arrival in Java in 1895 has been identified in a variety of ways with the sugar industry. He was given his present appointment in 1907.

"SEMPALWADAK" SUGAR ESTATE.

THIS estate, situated in the neighbourhood of Malang, about 1,200 feet above sea-level, with its model factory, is the property of the N. V. Suiker Cultuur Maatschappij, of Amsterdam, which is represented in Java by the N. V. Kooy & Co.'s Administratiekantoor of Sourabaya. The estate, which in 1890 comprised some 300 bouws only, has now been extended to 1,150 bouws under cultivation. The factory was erected in 1880, but it was gradually rebuilt, and now is thoroughly up-to-date and comprises well with most of the factories of East Java. The cane is transported to the mill partly by rail, partly by bullock carts. The machinery includes crushers, triple presses, treble "defecatie" installation, Taylor filters, quadruple *etfel*, 16 Weston centrifugals, sugar driers, boilers, &c.—everything necessary to produce Muscovados or so-called Channel assortment. The product is exported to Pasoeroean by train. The capacity of the mill is 12,000 piculs of cane a day, while the estate and factory give employment to twenty Europeans and between three and four thousand natives.

The manager is Mr. J. F. W. van Vloten, who is a native of Amsterdam and first came to Java some twenty years ago. He has been engaged on the present estate for the past fourteen years.

"BODJONG" SUGAR ESTATE.

IN the residency of Banjoemas, where, on account of the heavy rainfall, only 9 to 10 per cent. of sugar is obtained from cane, which in drier parts of the island would yield 12 to 13 per cent., an average of 125 piculs from one bouw of land planted is a result that must be eminently gratifying to any planter. It can be obtained only by good and careful and experienced management, and special credit is therefore due to Mr. H. C. C. Fraissinet, who has now for many years past maintained this high level of production on the "Bodjong" Estate. Since 1894 the Kalimantan estate has been included with "Bodjong," and the cane from the total area of 1,100 bouws is dealt with in one factory. A light railway is used for carrying the cane from the fields to the mill, and the mill is close to the tramway terminus at Poerbolinggo, so that very quick transport is assured. The factory, which is splendidly equipped with machinery, has a capacity of 11,000 piculs a day, and gives employment to some fifteen Europeans and 180 responsible natives (*mandoers*), while in the busy season, from May to November, when the cane is milled and that for the next crop has to be planted, between five and six thousand coolies are engaged on the plantations.

Mr. Fraissinet has been associated with the cultivation and manufacture of sugar in Java since 1888. He was appointed to his present position in 1894. The financial agents and directors of the estate are Messrs. McNeill & Co., Semarang.

KENDAL SUGAR FACTORIES, TJEPING AND GEMOE.

THE sister sugar factories, Tjepiring and Gemoe, with which, until it was closed in 1899, the factory of Poegoech was also associated, are situated on the banks of the Kali-boedri, in the plain of Kendal, in the western division of the residency of Semarang. Their establishment, like that of many others in Java, dates back to the thirties, and for very many years they were privately owned. They have been the property of the limited liability company, formed under the directorship of Messrs. Mackinnon, Watson & Co., and Messrs. Tiedeman & Van Kerchem since 1893 only.

Owing to the lack of any proper scheme of irrigation for the plain of Kendal, the factories were worked for some considerable time without profit, until, in fact, the shareholders, tired of waiting for the Government, decided to undertake the work themselves, and to utilise the waters of the Kali-Boedri for the purpose. In 1895 two pumping stations were erected, and a third added in 1898, with a total capacity of 2.2 cubic metres, about 550 gallons, of water a second, an ample supply to satisfy all requirements even during the dry weather of the east monsoon. This improvement, the extension of the capacity of the Tjepiring and Gemoe factories, and the closing down of the third, brought new life into the business, and both facilitated the work of management and considerably augmented the annual revenue. Lost ground was quickly recovered, and the Kendal factories number now among the most prosperous in Java.

Tjepiring produces only crude (*raw*) sugar

for foreign refineries, but Gemoe has all along striven to meet the local demand, and, since the installation of a complete set of new machinery in 1908, has manufactured one of the best varieties of sugar on the market. The area of land planted yearly for each factory is 1,225 bouws, or about 2,150 acres, while the amount of cane for both estates has averaged 300,000 piculs, or about 22,500 tons during the last few years. The daily capacity of each factory is 10,000 to 11,000 piculs of sugar-cane (about 625 to 687 tons), from which Tjepiring obtains an average of 80 tons of raw sugar, and Gemoe about 70 tons of "consumptive suiker." The cane is transported from the fields in waggons on rails, drawn by oxen. A portion of the raw sugar is still packed in baskets, but the remainder and the whole of the sugar from the Gemoe factory is despatched in bags to Semarang on the Semarang-Cheribon Tramway Company's lines, some seventeen to eighteen ten-ton waggons being required daily, except on Sundays, when no sugar will be accepted in the town. During the busy season twelve to fifteen thousand labourers are employed, under a staff of seventy-seven overseers (*mandoers*). Two thousand natives are engaged in harvesting and in transporting the sugar-cane to the factory. In the factory, over a hundred handicraftsmen and two hundred day labourers are regularly employed throughout the year, while in the busy season the staff of labourers is often increased by the addition of another six hundred men. At a rough estimate a sum of Fl. 900,000 is circulated by these factories among the natives in the district, and indirectly the natives profit in many other ways through having European capital and enterprise at work in their midst.

"SOEMBER-KARENG" SUGAR ESTATE.

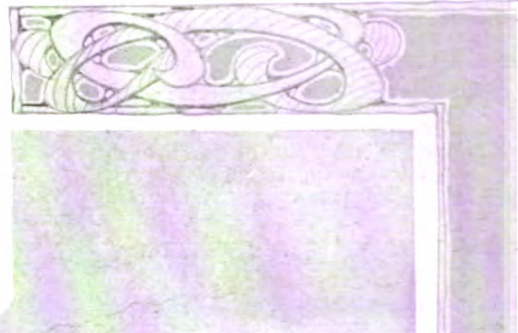
THIS estate, which is situated near Probolinggo, in the residency of Pasoeroean, is the property of the "Soember-Kareng Cultuur Maatschappij," of The Hague. The average area under cultivation each season is 844 bouws. At the present time the cane is conveyed to the factory in lorries drawn by oxen, but some extensive improvements are anticipated, and it is expected that in a short time locomotives will be doing more rapidly and more effectively the work now performed by those patient and somewhat slow-moving animals. The factory, which was built in 1838, has a capacity of 12,000 piculs of sugar-cane per twenty-four hours. The machinery consists of a crusher with triple pressure, boilers provided with Dunkerbeck furnaces for burning the megass or refuse cane, sulphuric acid gas installation, settling tanks, filter presses, evaporators of the quadruple *etfel* type, vacuum pans, centrifugals and a sugar drier, &c.

Mr. C. M. Pompe is the director of the Soember-Kareng Cultuur Maatschappij, and Mr. R. E. N. Soesman the manager of the estate and factory.

"WONOASEH" SUGAR FACTORY.

THE "Wonoaseh" sugar factory, situated four miles to the south of Probolinggo, was erected in 1882 by Mr. C. G. Hardev, and is now the property of the Naamlooze Vennootschap Suikertabrick "Wonoaseh," whose plantations cover an area of 750 bouws.

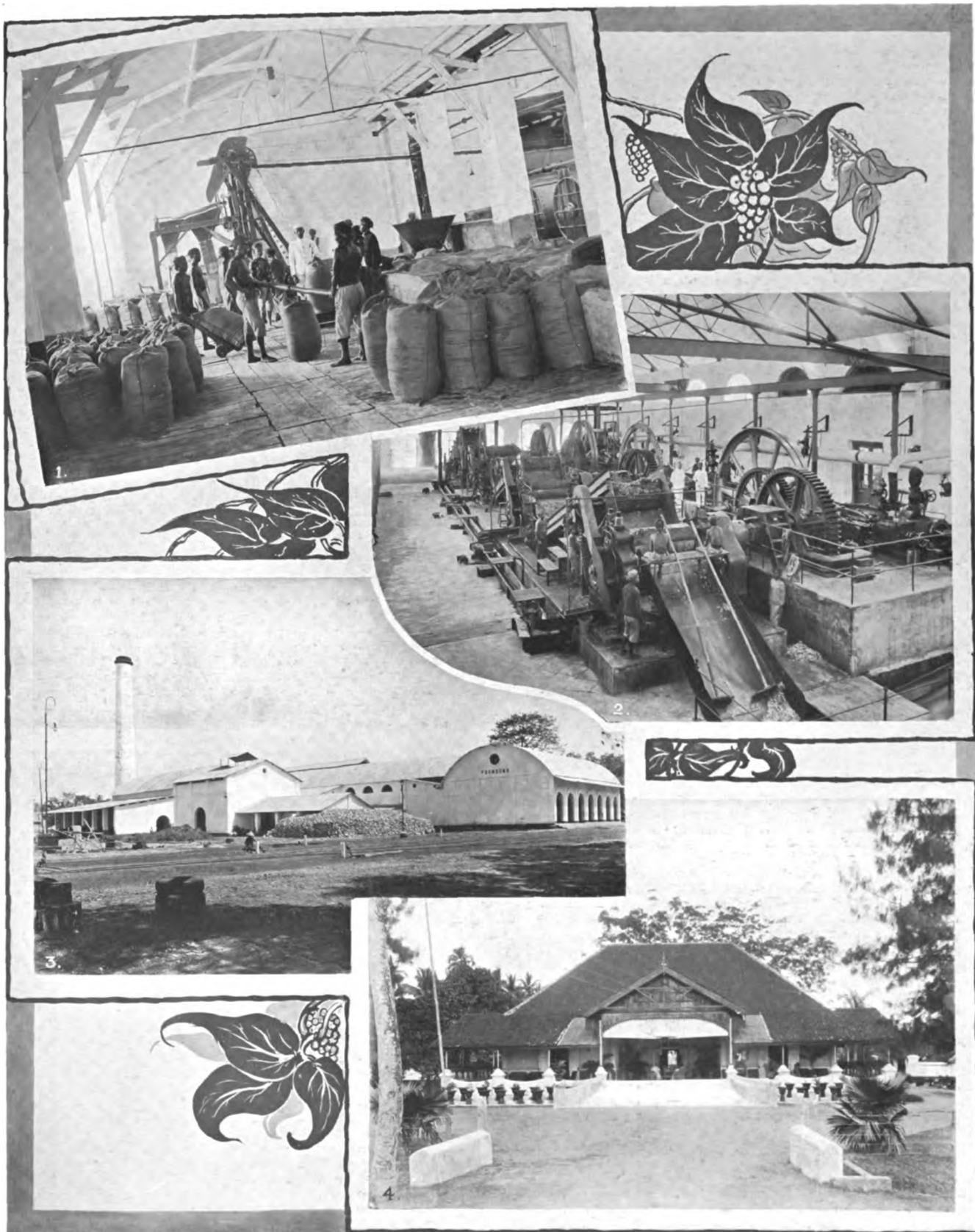
The installation consists of three single roller sugar mills, Snelstroom warming apparatus, six hydraulic filter presses, two triple *etfel* evaporators of 350 and 450 square



JAPARASCHE CULTUUR MAATSCHAPPIJ.

1. CRUSHING MACHINERY.
2. PART OF PLANTATIONS WITH FACTORY IN BACKGROUND.

3. GENERAL VIEW OF FACTORY, TANDJONG MODJO.
4. RESIDENCES OF MANAGER AND STAFF, TANDJONG MODJO.



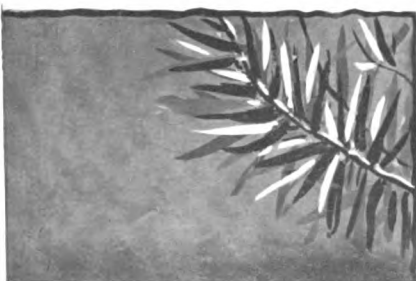
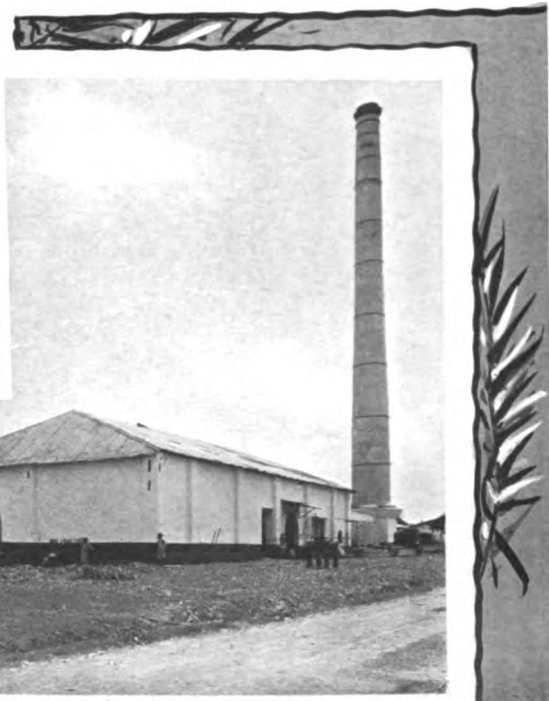
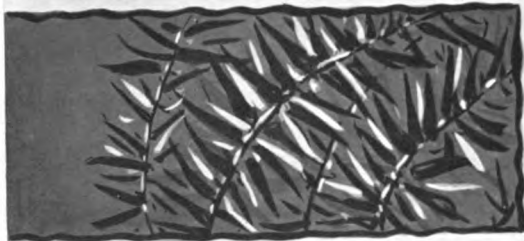
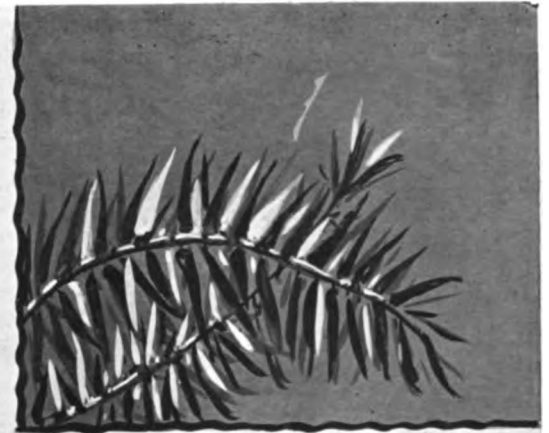
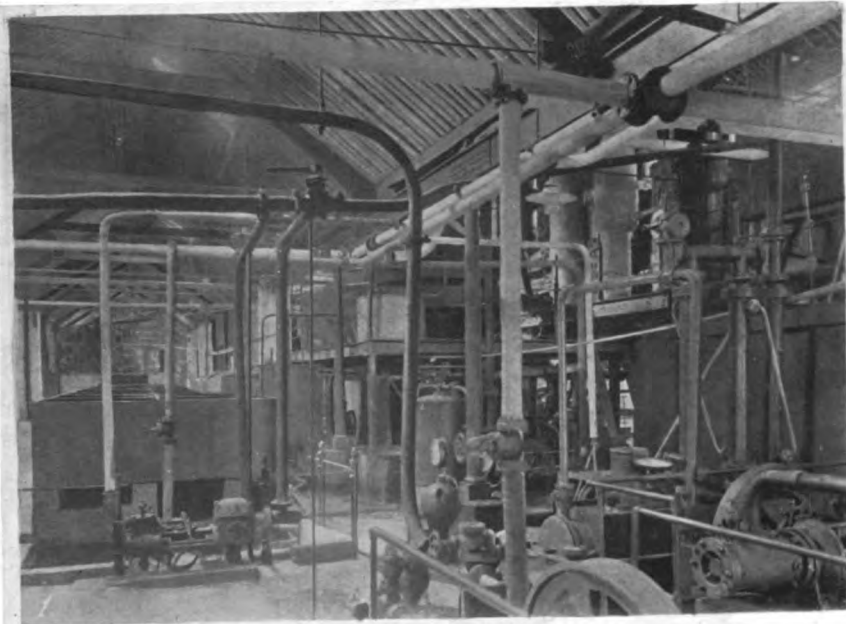
"POENDOENG" SUGAR ESTATE (N. V. POENDOENG).

1. BAGGING THE SUGAR.

2. THE CRUSHERS.

3. THE FACTORY.

4. MANAGER'S RESIDENCE.



"SEDAJOE" SUGAR FACTORY, NEAR DJOCJAKARTA.

1. PART OF THE INSTALLATION.

2. CUTTING THE CANE.

3. MANAGER'S RESIDENCE.

4. THE FACTORY.

metres superficial warming area, four boiling pans of 100 hectolitres (2,200 gallons) each, three cooling troughs of 400 hectolitres each (8,800 gallons), and 16 Weston centrifugal machines. The factory—which manufactures two kinds of sugar, the best refined white and molasses—has a capacity of 10,000 piculs a day.

The manager, Mr. W. E. van den Bossche, was born in Bonthain (Celebes) in 1869, and after spending some time in Holland, came back to Netherlands India in 1890. For eighteen months he was employed on various tobacco estates in Deli (Sumatra), and has since been engaged in sugar growing in Java.

"OMBUL" SUGAR ESTATE.

SITUATED near Probolinggo, this sugar estate consists of between 11,000 to 12,000 bouws of land, rented yearly from the natives for one season's crops, and worked by the Cultuur Maatschappij "Wonolangen." At the present time only seven or eight varieties of cane are planted, the average production being 1,200 piculs per bouw, yielding 10 per cent. of sugar.

The factory, which lies about one mile to the west of the town of Probolinggo, was built in 1883 by Mr. Matthew Etty, but since that date has undergone many improvements, and is now fitted with the most modern machinery for the manufacture of sugar, the milling capacity being from 10,000 to 12,000 piculs of canes for every working day of twenty-three hours. The equipment consists of six boilers of various types, with a total heating surface of 1,200 square metres, which are fitted with ovens to which the green megass is conveyed by a speed carrier on leaving the last mill and is there dried for purposes of fuel, and two quadruple-acting feed-pumps which draw water from the two hot-wells for feeding the boilers. In the mill-house are four sugar-cane mills with rollers 30 in. by 60 in., and one Kra-jewsky crusher, both fitted with compound gearing with a ratio of 1 in 20. In the factory there are three measuring tanks, one raw juice receiver, one double acting juice pump, three juice heaters, with multiple power, each with 50 square metres of heating surface, six defecators, sixteen large settling tanks for the juice, one filtering tank fitted with bronze gauze, eleven filter presses with 28 chambers each, two impure juice tanks, one quadruple *effel*, heating surface 450 square metres, and one triple *effel*, heating surface 250 square metres, four vacuum boiling pans with a total boiling capacity of 280 hectolitres, one open trough for crystallisation while in motion, which is divided into four compartments, one for each pan, one *masse-cuite* conveyer, one *masse-cuite* pump, two sets of six Weston centrifugals (Watson, Laidlaw) for best sugar, and one set of six centrifugals for molasses sugar, twelve molasses tanks, and two sugar driers fitted with a Sturtevant heater.

The manager for the estate is Mr. A. McNeill. The acting manager, Mr. F. W. Wijbrands, was born at Hoorn (Holland) in 1876. He held several honorary positions in the Botanical Gardens of his native country, including the Hortus at Leyden, and so gained experience which has proved of the greatest value. He arrived in Netherlands India in 1895, since which time he has been actively engaged in sugar cultivation.

Mr. John C. M. Potter, who has occupied the position of chief engineer on the "Ombul" Estate for the past sixteen years, was born of British parents at Probolinggo in 1865.

After receiving his education at Leicester and Glasgow he was apprenticed to Messrs. W. & A. McOnie, engineers, of Glasgow, and in 1886 returned to the land of his birth in the capacity of second engineer for his present firm. Mr. Potter has had varied experience with sugar, rice, ice, and coffee milling machinery, and for five and a half years has travelled for various engineering firms for the sale of machinery and mill requirements.

JAPARASCHE CULTUUR MAATSCHAPPIJ.

THIS Company, with its head office at The Hague, Holland, was founded on May 2, 1903, with a capital of Fl. 2,300,000, which has since been increased to Fl. 2,880,000. The founders acquired, among other properties, the sugar factories of Tandjong Modjo, Klaling and Bendokerep, each of which was worked at the expense of the former owners during the season of 1903. During the two following seasons the Tandjong Modjo and the Bendokerep factories only were worked, and since 1906 the cane of all the estates has been treated at Tandjong Modjo, which has been enlarged for that purpose.

The Tandjong Modjo Estate is situated in the residency of Semarang, division of Koedoes, district of Tenggeles, 11 miles to the west of Pati, six miles east of Koedoes, and a mile and a half north of the tram station, Bareng. It lies at the foot of the Moerya Mountains, and about 100 feet above sea-level. The factory, which produces only the best crystallised sugar—the double carbonation method being employed—has a capacity of 20,000 piculs (2,720,000 lb.) a day; the Company's trade mark, "T.M.O.," is exceedingly well known. Mr. C. L. B. Jonquiere is the manager of the estate.

In 1904 some 1,519 bouws (2,604 acres) were under cultivation, and the amount of sugar produced by both factories, Tandjong Modjo and Bendokerep, was 170,445.62 piculs (23,180,604 lb.). In 1907 some 1,617 bouws of the combined Tandjong Modjo Estate produced 210,490 piculs; and in 1908 the production was 254,310 piculs from 1,500 bouws of cultivated land. During the present year 1,709 bouws have been planted with sugar-cane.

In 1908 the Company purchased the Rendeng Sugar Estate, which in that year produced 74,950 piculs (10,193,200 lb.) of sugar from the 520 bouws (912 acres) under cultivation. The estate, which is some 85 feet above sea-level, is situated in the residency of Semarang, division and district of Koedoes, to the north of the Grand Trunk Road to Semarang, half a mile east of the tram station at Koedoes. The factory, which has a capacity of 7,000 piculs (852,000 lb.) per diem, produces only Muscovado sugar, which is exported under the trade mark "Rendeng." The manager is Dr. H. Byvanck.

The director of the Company is Mr. C. J. van Lookeren Campagne; and the representative in Netherlands India, Jonkheer H. C. van der Wyck. The members of the Board are Messrs. C. T. F. Thurkow (president), M. Paul Voute, Jonkheer H. L. van der Wyck, and A. C. Mees.

NAAMLooZE VENNOOTSCHAP "POENDOENG."

THE NaamlOOze Vennootschap "Poendoeng" was founded in 1874 at Semarang, with a capital of Fl. 650,000, but in 1896 the head office was transferred from Semarang to The Hague, Holland. The Company has for its

object the cultivation and manufacture of sugar on an estate called "Poendoeng," situated in the residency of Djocjakarta, in the Mataram division, and in the district of Tjanden and Kretek, about 16 miles south of the Djocjakarta Railway station and 7 miles south-west of the Pail Bapang tram station. The area originally taken over by the Company, however, has been increased by the purchase of the estate, Menkang Redjo, and by the renting of additional ground from time to time. Their land for the most part lies at an altitude of 75 feet above sea-level.

In 1896 97, 451 bouws (791 acres) were planted with cane, from which 44,712 piculs (6,080,832 lb.) of sugar were obtained, while in 1908 the 700 bouws (about 1,228 acres) which were under cultivation yielded 104,000 piculs (14,144,000 lb.). During the present year (1909) it is estimated that 720 bouws (1,263 acres) will be planted. The sugar, which is placed on the markets under the trade mark "P.G.," is of a superior quality, the double carbonation method being employed in its manufacture, the capacity of the factory is 8,400 piculs, or 1,142,400 lb. a day.

The director of the Company is Jonkheer H. L. van der Wijck, and the representative in Netherlands India, Jonkheer H. C. van der Wijck, the members of the board comprising C. T. F. Thurkow (president), M. Paul Voute, and R. F. H. Mosselmans. The manager of the estate is Mr. J. D. Ferman.

"SEDAJOE" SUGAR ESTATE.

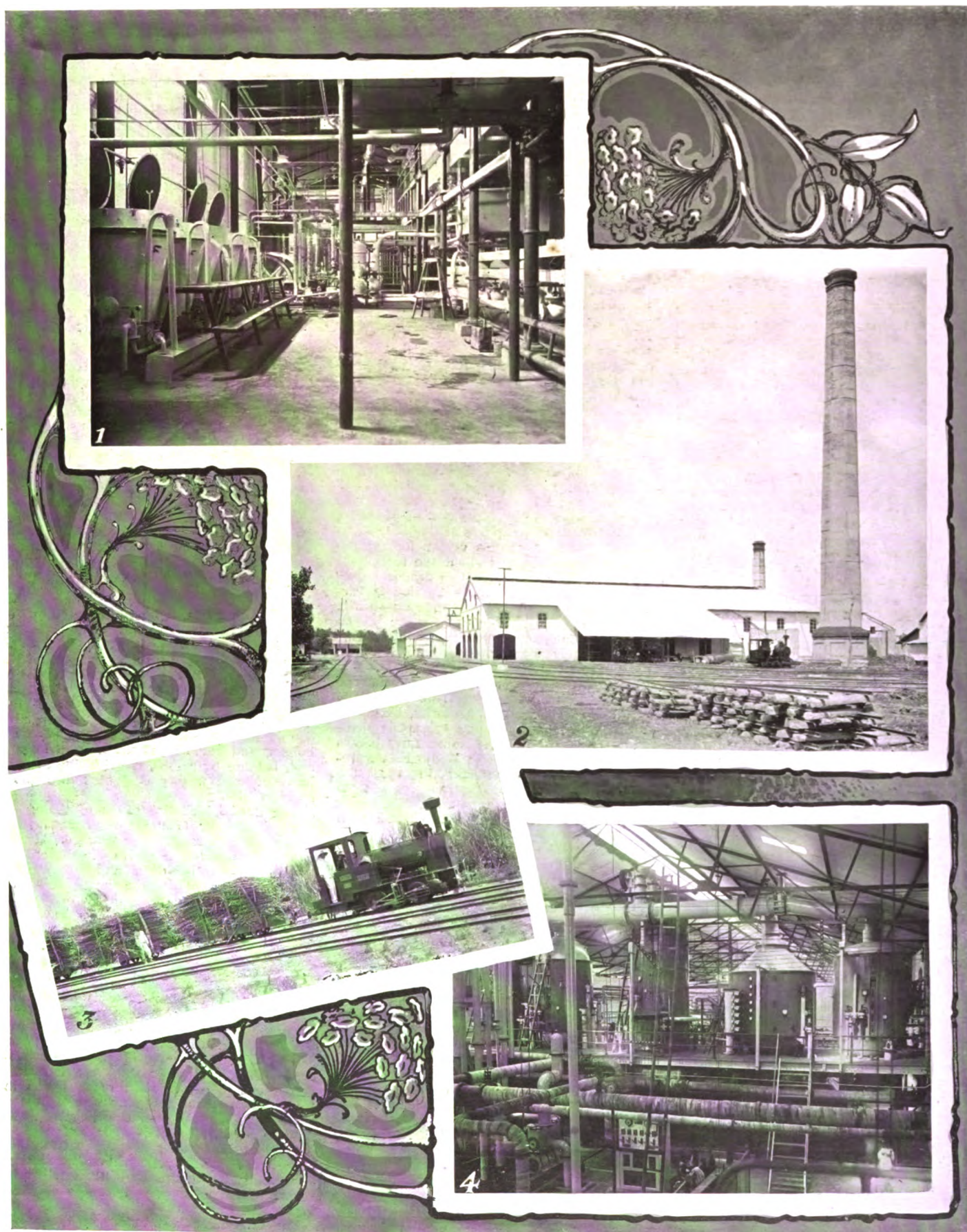
ALTHOUGH the date of the opening of this estate is uncertain, it is known to be one of the oldest in the residency of Djocjakarta. It covers an area of about 450 bouws. The factory, which has a capacity of 4,000 piculs a day, produces a very superior class of sugar. The machinery, although not as modern as that possessed by some of the other mills in the neighbourhood, includes double presses, filter presses, triple power boilers, and Rudolf and Allott centrifugals, and, judging by results, is quite able to hold its own. The factory is lighted throughout by electricity.

The financial administrators of the estate are the Cultuur Maatschappij der Vorstenlanden, of Semarang. The manager, Mr. A. A. van Blyenburgh, a native of Amsterdam, came to Java in 1892, and immediately became interested in the sugar industry. During the whole of his sojourn in Netherlands India he has been in the service of the Cultuur Maatschappij der Vorstenlanden, receiving his present appointment in 1907.

"BANTOOL" SUGAR ESTATE.

THE "Bantool" sugar estate is situated in the residency of Djocjakarta, and covers an area of some 650 bouws. The factory, which was erected in 1891, has from time to time undergone many important improvements, and at the present day compares very favourably with most of the mills in Java. The machinery includes crushers, triple presses, 25 Weston centrifugals, sugar driers; in fact all that is necessary to turn out an excellent quality of sugar both by the "defecation" and "carbonation" processes. The factory has a capacity of from 10,000 to 12,000 piculs of cane a day, and is lighted throughout by electricity.

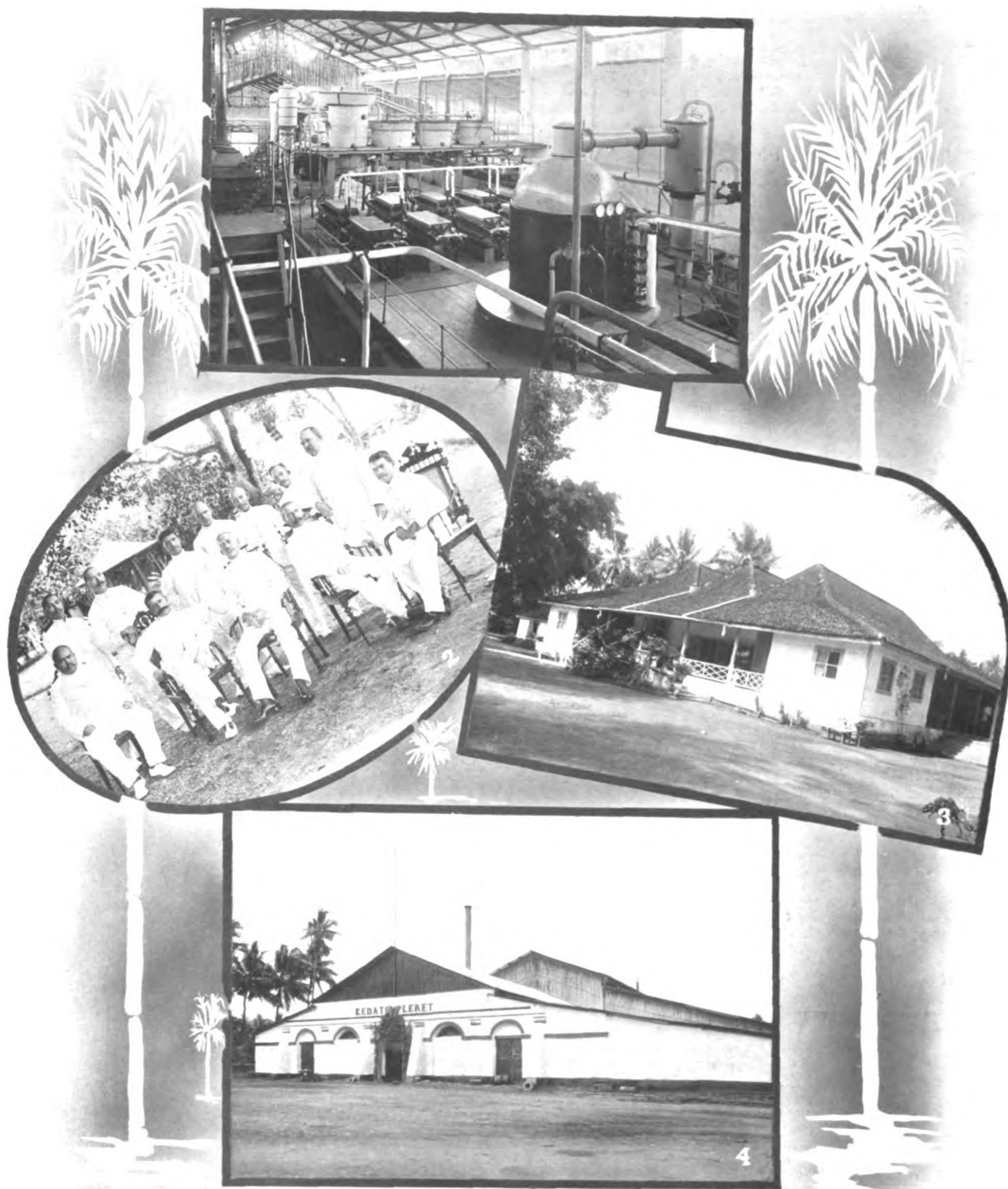
The financial administrators of the estate are the Internationale Crediet en Handels Vereeniging "Rotterdam." The manager, Mr. F. W. Pynacker Hordyk, was born in Soerakarta, and at the age of six went to Holland



1 and 4. PART OF THE INSTALLATION.

2. THE FACTORY.

3. TRANSPORTING CANE FROM PLANTATIONS TO MILL.



"KEDATON-PLERET" SUGAR ESTATE, DJOCJAKARTA.

1. PART OF THE MACHINERY.

2. MANAGER (in centre) AND ASSISTANTS.

3. MANAGER'S RESIDENCE.

4. THE FACTORY.

AV 2



"BARONGAN" SUGAR ESTATE, DJOCJAKARTA.

1. INTERIOR OF FACTORY. 2. RESIDENCE OF THE ADMINISTRATOR. 3. THE FACTORY. 4. GROUND PREPARED FOR PLANTING AND TRANSPORT OF CANE.



1



2



3



4

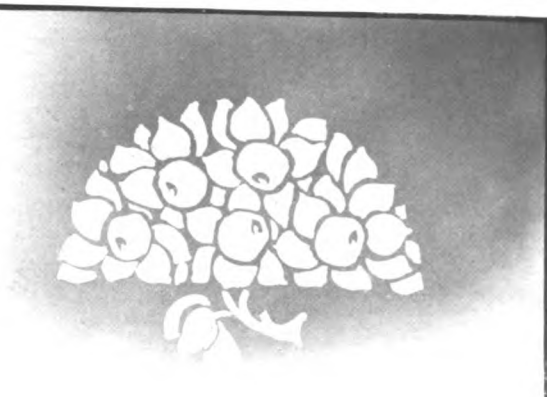
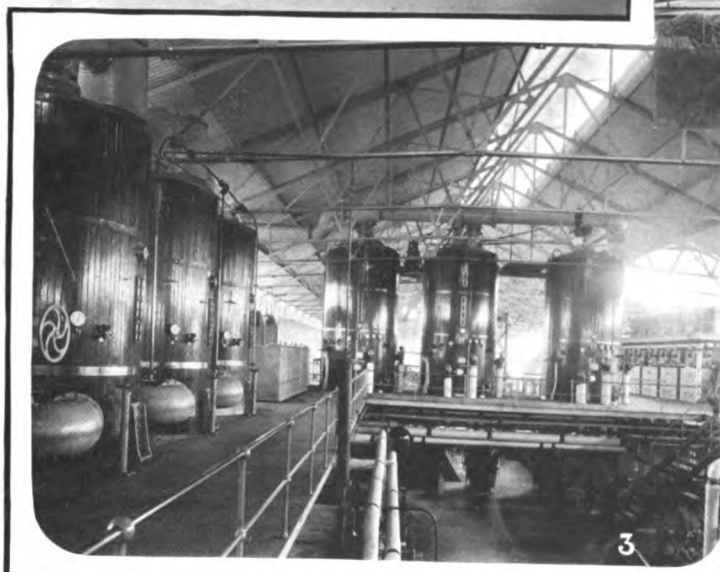
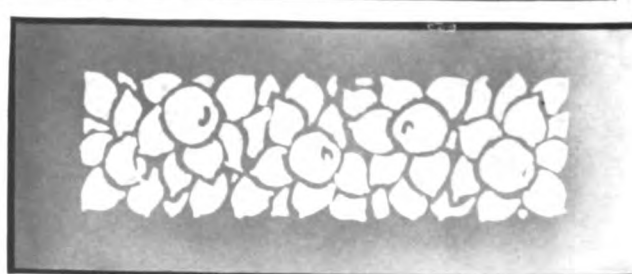
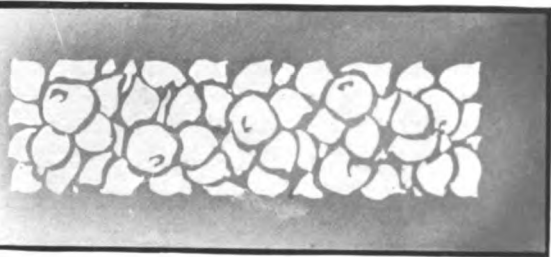
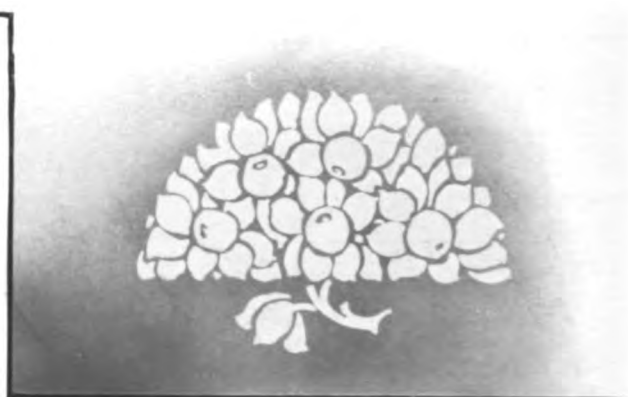
"DEMAK IDJO" SUGAR FACTORY.
(Cultuur Maatschappij der Vorstenlanden - Financial Administrators).

1. THE FACTORY.

2. CRUSHING MACHINERY.

3. BOILER HOUSE.

4. ADMINISTRATOR'S HOUSE.



"WONOTJATOOR" SUGAR FACTORY.
 (Cultuur Maatschappij der Vorstenlanden—Financial Administrators).

1. FACTORY, SHOWING HOUSE FOR LIME BURNING. 2. ANOTHER VIEW OF FACTORY. 3. PART OF THE INSTALLATION. 4. MANAGER'S RESIDENCE.

to be educated. After taking his degree as a Doctor of Law at the Leyden University, he came back in 1905 to Java and turned his attention to the sugar industry.

"KEDATON-PLERET" SUGAR ESTATE.

THE date of the opening up of this sugar estate and the erection of the mill is doubtful, but both have been in working for many years and have a highly successful record. The estate comprises about 650 bouws, and there is an average daily yield of some 9,000 piculs of cane. The installation includes crushers, triple *effet* boilers, Rudolf and Weston centrifugals, sugar driers, and the defecation system for the second quality of sugar manufactured.

The manager, Mr. S. de Kauter, has travelled extensively and has gained a wide and varied knowledge of sugar cultivation and manufacture.

"BARONGAN" SUGAR ESTATE.

"BARONGAN," one of the oldest estates in the residency of Djocjakarta, was opened some fifty years ago by Mr. G. Weijnschenk, and is still owned by members of his family. The earthquake of 1866 did a great deal of damage to the property and destroyed all the buildings, but these were reconstructed the following year, and the record of the estate has since been one of continuous prosperity. During the last few years it has yielded as much produce per bouw as any estate in the island, and its factory is now a leading one in Java. The estate has an area of about 900 bouws, and the capacity of the factory, at which all qualities of sugar are manufactured, is 12,000 piculs a day.

The permanent staff consists of eighteen Europeans and about three thousand natives. The manager, Mr. J. van Koesveld, is a native of Schiedam, Holland, and arrived in Java in 1887, being at that time and until 1893 an engineer in the Dutch Navy. He retired from the service to take up duties in connection with sugar cultivation, and became associated with the "Barongan" Estate in 1902.

The financial agents of the estate in Java are the Cultuur Maatschappij Vorstenlanden, at Semarang.

"WONOTJATOOR" SUGAR ESTATE.

THE Wonotjatoor Sugar Estate, with an area of 853 bouws under cultivation, is situated in the residency of Djocjakarta, the nearest railway station being Magoewo. The factory was erected between May, 1908, and May, 1909. The machinery, supplied by Maxwell & Co., comprising three mills, 60 by 30, the first mill, which is provided with an Excelsior cylinder, having a capacity of 14,000 piculs of sugar-cane a day; five flame-pipe boilers, each with a warming surface of 260 metres, and fitted with ladder-grate furnaces for burning the megass, or refuse cane; one quadruple *effet* of 850 metres warming surface; ten cooling vats—five for the best quality of sugar, and five for the molasses; two batteries of Weston centrifugals driven by water power, and a sugar drier.

Two qualities of sugar will be manufactured—the "superior," or best white, and a lower-grade sugar made from the molasses of the first sugar, in the process of which both the double carbonatation and sulphuric acid treatment is to be used.

It is estimated that the crushing will last about 100 days, during which period 1,200,000 piculs of sugar-cane should be dealt with. The cane will be conveyed from

the fields to the factory in lorries drawn by oxen, but a Decauville railway has been constructed for the transport of the sugar to the Magoewo railway station.

The head administrator is Mr. P. N. Boon, and the financial agents the Cultuur Maatschappij der Vorstenlanden.

"REWOELOE" SUGAR FACTORY.

"REWOELOE" was established first as an indigo factory by Messrs. Jan and Antoine Raaff. It was converted into a sugar factory in 1873, and a quarter of a century later became the property of the "Rewoeloe" Company of Rotterdam (Naamlooze Vennootschap "Rewoeloe"), whose representatives in Java are the Cultuur Maatschappij der Vorstenlanden. The estate, which covers an area of 4,800 bouws, with 700 bouws under cultivation, is situated in the residency of Djocjakarta, in the Sleman regency, Godean district, and is a mile and a half north of the Rewoeloe station on the Djocjakarta-Tjilatjap railway, two and a half miles from the Klatjie sugar factory, four miles from the Sedayoe sugar factory, and three miles from that of Padokan.

The factory was completely renovated in 1905, and is now splendidly equipped with machinery, which has a capacity of 8,000 piculs of cane a day. The manager of the factory is Mr. C. M. van Abkoude.

"PADOKAN" SUGAR ESTATE.

It is unknown when the original factory on the "Padokan" estate was erected, and it is a matter, after all, of little consequence, for the buildings were utterly destroyed by the earthquake of 1866. The present factory, which was constructed with as little delay as possible after the catastrophe, was christened "De Volharding," meaning "Perseverance," but the new title has never ousted the old, and "Padokan" is still the name by which the factory is commonly known. The new factory was fitted with the machinery, judged by the experts of that day to be best suited for sugar manufacture, but additions and improvements have been made from time to time, with the result that the capacity has increased during the past thirty-five years from 2,500 piculs to 12,000 piculs a day.

The estate, which is situated in the Residency of Djocjakarta, has an area of 750 bouws under cultivation. A Decauville railway has been constructed to carry the cane from the plantation to the factory, where five large boilers supply the steam necessary for driving the various machines used in the different stages of its manufacture into sugar. The crushing plant comprises three mills and a shredder. During the crushing season over three hundred coolies are employed, while sixteen Chinese are kept busily at work at the carbonatation presses and boiling vats only.

The general manager of the estate is Mr. C. Gauw.

"TJEBONGAN" SUGAR ESTATE.

THE "Tjebongan" Sugar Estate is situated in the residency of Djocjakarta, and altogether covers an area of about 1,500 bouws. The factory, which was erected in 1880, is one of the most modern in the district, the machinery installation including triple presses, filter presses, quadruple power boilers, Weston centrifugals, sugar driers, &c., both the carbonatation and defecation processes being used. The mill has a capacity of some 10,000 piculs a day, and gives employment to twenty-five Europeans and over two hundred natives;

while a considerable number are engaged in the plantations.

The manager, Mr. J. G. Dom, was born in the Djocjakarta district, and is thoroughly conversant with all branches of the sugar industry. In 1901 he took up his first position as administrator, and in 1909 received his present appointment.

The financial administrators of the estate are the Internationale Crediet en Handels Vereeniging "Rotterdam."

"SEWOE GALOOR" SUGAR ESTATE.

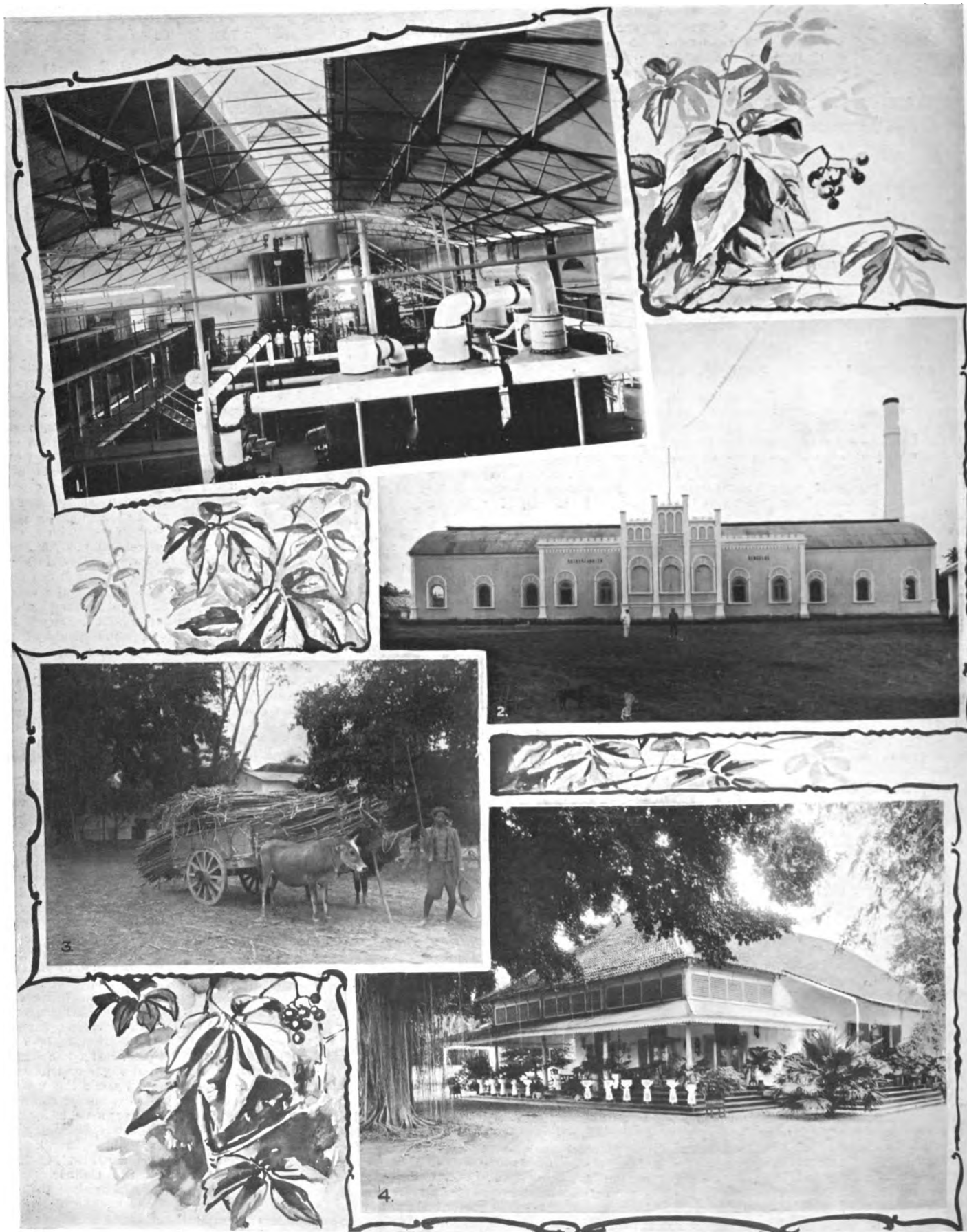
SITUATED in the residency of Djocjakarta, not many miles from the iron-sand bound shore of the South Coast of Java, the "Sewoe Galoor" Sugar Estate has in the past often had to contend with difficulties caused by the flooding of its lower lands by the sea. This trouble, however, like many others, has been overcome by a little enterprise, and the construction of two canals now renders damage by the onrush of salt water practically impossible. The estate covers an area of 5,300 bouws; the factory for dealing with the cane grown on the plantations has been in existence for just over thirty years, having been erected by Messrs. Raaf, Hoen and van den Berg in 1878. Since 1891 the undertaking has been in the hands of a company under the direction of the Cultuur Maatschappij Vorstenlanden, at Amsterdam.

The machinery installed at the time the factory was built is still in use, with the exception of a new set of centrifugals purchased during the present year, but this does not suggest that it is out of date, for it has been kept thoroughly well in order, and its daily average capacity is 9,000 to 10,000 piculs of cane. At the present time the factory has an annual output of 135,000 piculs of the best refined white sugar—the only quality manufactured.

The manager of the estate, Mr. C. von Bornemann, is a native of Denmark. He has been connected with the cultivation of sugar and tobacco in Java for the past twenty-five years, and has held his present position since 1904. Mr. A. R. Kuipers, the assistant-manager, came to Java from Holland in 1897. He was engaged on the "Sewoe Galoor" Estate in 1907.

JONKHEER H. C. VAN DER WYCK,

the representative in Java of many important industrial enterprises, details of which are given in the various sections of this volume, is the son of a former Governor-General of Netherlands India, and a nephew of the well-known Jonkheer H. L. van der Wyck, whose great experience and wide knowledge in industrial matters is everywhere acknowledged. Born in Soerakarta, he was sent to Holland for his education, and eventually graduated as a Doctor of Law at Leyden University. For two years following he was engaged in the Colonial Office at The Hague, but left the Government service in 1901 to take up his present important post. His knowledge of the details of the great sugar and tobacco industries may be gauged from the variety and importance of the interests he controls. Among other things, he is responsible for the supervision of the plantations belonging to the Klattensche Cultuur Maatschappij, the Cultuur Maatschappij "Wedi-Birit," Cultuur Maatschappij "Lawoe," the Cultuur Maatschappij "Delangoe," the Japarasche Cultuur Maatschappij, and "Poendoeng" Sugar Estate. The control of these various plantations, and his place at the head of so many different enterprises, is also continually bringing Jonkheer van der Wyck into close touch with the Government.



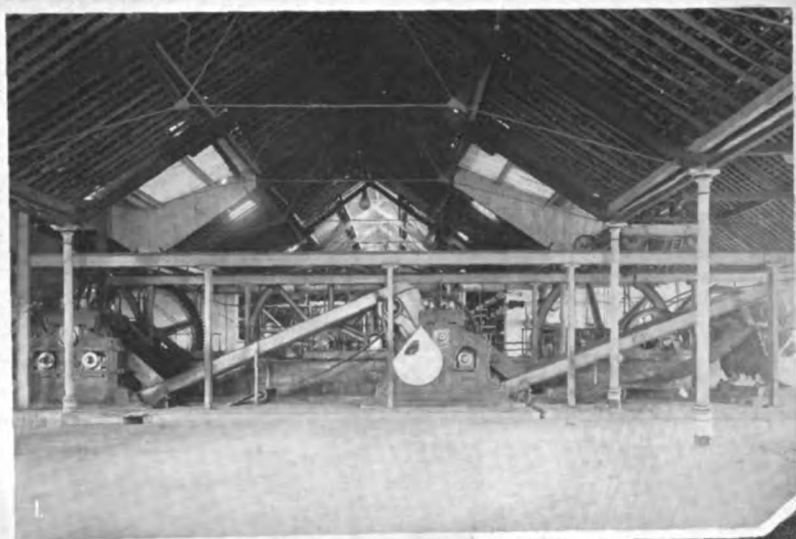
"REWOELOE" SUGAR FACTORY, NEAR DJOCJAKARTA.

1. THE INSTALLATION.

2. THE FACTORY.

3. TRANSPORTING CANE TO FACTORY.

4. MANAGER'S RESIDENCE.



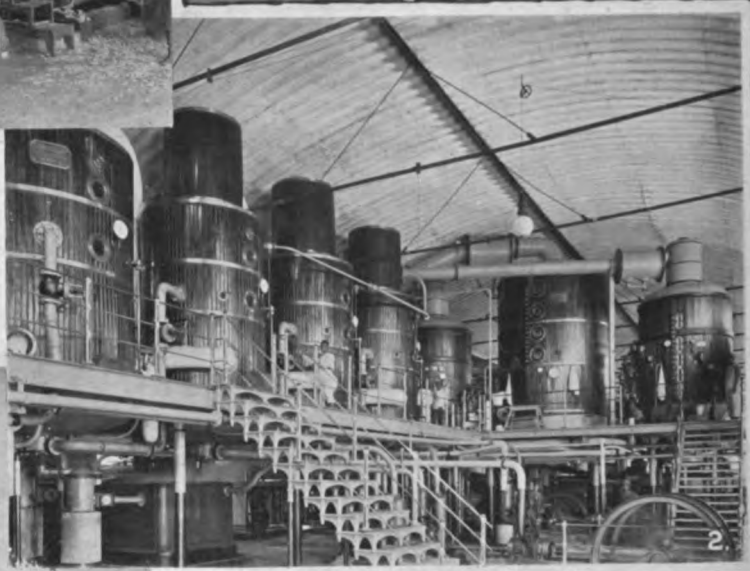
"PADOKAN" SUGAR ESTATE, NEAR DJOCJAKARTA.

1. THE CRUSHERS

2. ADMINISTRATOR'S HOUSE.

3. TRANSPORTING "FIBER"

4. THE FACTORY.



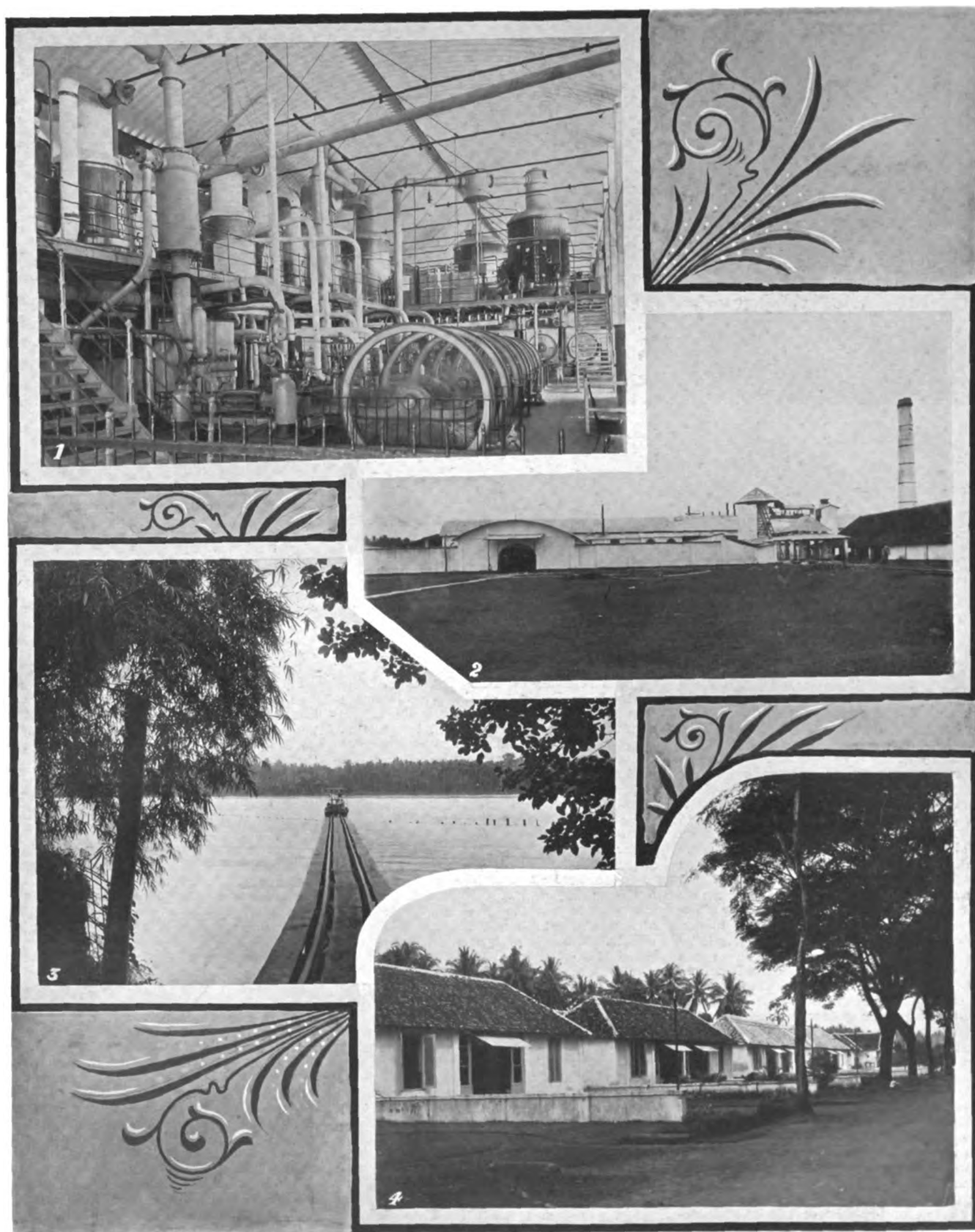
"TJEBONGAN" SUGAR FACTORY, DJOCJAKARTA.

1. CRUSHING MACHINERY.

2. BOILERS.

3. THE FACTORY.

4. MANAGER'S RESIDENCE.



"SEWOE GALOOR" SUGAR ESTATE, DJOCJAKARTA.

1. INTERIOR OF FACTORY.

2. THE FACTORY.

3. BRIDGE AND RAILS ACROSS THE RIVER.

4. DWELLINGS OF EMPLOYEES.



TOBACCO FIELDS OF THE DELI MAATSCHAPPIJ IN SUMATRA.

TOBACCO.



THE Dutch East Indies, though well and favourably known for other valuable products, have acquired in less than half a century a pre-eminent commercial fame by the tobacco culture of Java and Sumatra. The cigar wrapper leaf of Sumatra in particular has attained to the highest rank in that huge commerce which caters to the luxurious craving of the smoker. Fashion in one nation and taste in another may favour the great rivals of Havana or Latakia; but neither Cuban nor Syrian devices have been able to thwart the praiseworthy energies of the Dutch planter nor arrest the popularity of his highly cultivated product, with the result that in the markets of Europe and America Dutch East India tobacco-leaf has its own unique reputation. The importance of this difficult and delicate horticulture, moreover, may be gauged by the market figures for the record year 1906, when the crop of the two islands exceeded seven and a half millions sterling in value. It is the purpose of this article to give a short account of the planting and marketing phases of the industry, from the preparation of the field, or veld, to the dispersal of a cargo among the world's buyers in the famous Frascati market at Amsterdam.

The conditions in Java and Sumatra differ radically in several respects. The same plant is cultivated, namely the *Nicotiana rustica*; but influences of climate and soil, and particularly methods of cultivation, result in the Java leaf being notably inferior to the Sumatra. The price obtained for Java leaf, for instance, is roughly one-third the value of its competitor across the Sunda Straits. Therefore, for the sake of brevity and interest, the reader's attention will be directed principally to the story of the world-renowned Sumatra product. It may be mentioned, however, at the outset that the chief reason why the Java tobacco takes second place is the law of the Netherlands Government

whereby the Java fields are native property and consequently subject to native carelessness of cultivation, whereas European companies hold and cultivate the tobacco lands in the sister island. The same cause, apparently, operates in favour of Borneo, where the same seed fetches a much higher price than the Java product, but bows slightly in the matter of traditions of fashion and soil to Sumatra. Also tobacco is cultivated in greater quantities and over a far wider area in Java; while in Sumatra its cultivation is almost entirely restricted to the north-eastern corner of the island—the famous districts of Deli, Langkat, and Serdang. The annual Java crop, again, is, roughly, double the bulk of that of Sumatra.

For over half a century tobacco has been an article of much native culture and consumption in Java, and in the thirties and forties of last century considerable consignments were sent to Holland, where even then it was an important marketable commodity. The bulk of the annual harvest was sent to Holland, and about the year 1863 the average crop would have aggregated 100,000 bales. It should here be mentioned that there are two sorts of tobacco—tobacco leaf used for the outside or cover of a cigar, and krossok, or that blend used exclusively inside the cover leaf. It is for the supreme quality of its cover leaf that Sumatra has become reputed in the tobacco industry. In 1863 Sumatra tobacco was almost unheard of, and Java, Manila, and some South American sorts were mostly used as cover tobaccos and accordingly fetched a very enhanced price. It was nothing uncommon for large consignments of leaf to obtain from 100 to 150 cents for half a kilogramme, while the price of krossok ranged from 12 to 25 cents. The planters of Java proved themselves to be a very enterprising set, and, recognising the possibilities of the tobacco industry, they made it their endeavour continuously to improve the quality of their product. This they did by the proper selection, assortment and treatment of their seed. Java tobacco

rapidly came to the front and was preferred to the cover leaves from other countries, which were regarded as more variable and less carefully treated.

During a period from 1860 to 1870, however, a great change came over the situation. The tobacco merchants in Holland were informed that on the East Coast of Sumatra the soil was suitable for the production of good native tobacco, and in the year 1864 the first sample of Sumatra tobacco was placed in the Rotterdam market. This was followed, in 1865, by the import of a few hundred bales, and the rich quality of the article soon found favour. Under European supervision the fields were worked by imported Chinese, and from small beginnings the industry on the island has assumed large proportions. As an illustration of the growth of the trade it may be mentioned that after ten years' work the crop produced 15,000 bales; in the following ten years 125,000 bales; in 1895 200,000 bales; while the present-day yield is over 270,000 bales. The Sumatra tobacco had such a thin silky leaf and was of such excellent colour and quality that it proved a formidable rival to the Java tobacco, especially in regard to the cover sorts. But being less expensive and of a very uniform quality, the Java tobacco held a prominent place in the market and its export has increased year by year. From the harvest of 1893 there was exported to Holland over 200,000 bales; in 1899 the figures rose to 306,000 bales, and in 1908 to 617,000 bales, while up to September, 1909, the export reached 510,000 bales. The value of the Java article, however, has not been enhanced, but has decreased to about 30 cents, which is less than a half of the former price. Native culture has to some extent been developed in many of the old plantation districts, but this has not helped to improve the product.

These, then, are the principal differences filling the eye in any survey of the tobacco industry in the Dutch islands.

PLANTING.—Foremost among the advantages enjoyed by Sumatra tobacco are those of climate and soil. The average rainfall on the north-east, where lies the Deli plain, has been calculated at 1,095 millimetres for the six months of the planting season, this fall being spread over 60 days. The tropical situation of the district, between 4° and 3° North latitude, also must be regarded as very favourable to the planter. The chemical composition of the soil of Deli, Langkat, and Serdang, in the constituents most favourable to tobacco growing, is also found to be very

acquired, from inscrutable topographical reasons, distinctive excellence above their neighbours. Setting themselves very early to produce the finest leaf to serve as the outside wrapper of a cigar, the Sumatra planters have passed from experience to experience until the present renown of the Sumatra leaf has been attained. They have not aimed so much to surpass in aroma or absence of nicotine the Havana and Latakia as to produce a leaf of fine delicate texture, the most necessary quality for a cigar wrapper which must embellish, but not hide,

for five years. During this prolonged and expensive rest, lalang is allowed to invade the field, and this in turn is burnt off before the next sowing. The land has to be most carefully drained, drainage coming even before the felling of the forest trees, for tobacco will not thrive on a wet soil. In the case of wet and soft swamps it is common to give two years to this preliminary draining. In the first year, arterial ditches are cut at intervals of about three hundred feet, four feet wide and deep, allowing the surface waters to run off; in



IN THE TOBACCO FIELDS.

rich in nitrogen, phosphoric acid, and lime, particularly in the case of the Deli district. It was to this favoured plain, almost entirely covered by forest, that the early planters came, cleared the ground with axe and fire, and ventured their Java seed. To-day most of the best land is cleared and has been planted once or several times, and as in the case of the vineyards of the Medoc and the Saunterne, certain particular districts, and even certain particular estates or fields, have

the flavour of the inner tobaccos composing the finished cigar. The wrapper must be not only of the finest texture, it must burn well, and all these necessary qualifications would appear inherent in the fair plain extending twenty-five miles inland from the eastern sea, and formed of the alluvia of sea and river, enriched with the washings of volcanic scorice from the interior highlands. The system now favoured takes one crop off the land and then lets the field lie fallow

the following year the solidification and settling down of the land is further assisted by widening and deepening the drains. Sometimes the ground is limed and broken up with the *changkol*, the action of lime and air completing the effect of the drainage.

The Sumatra seed, *Nicotiana glauca*, originally brought from Java, promptly underwent the soil modification common to plants and seeds of most kinds when transferred to a strange habitat. In time the nature of the

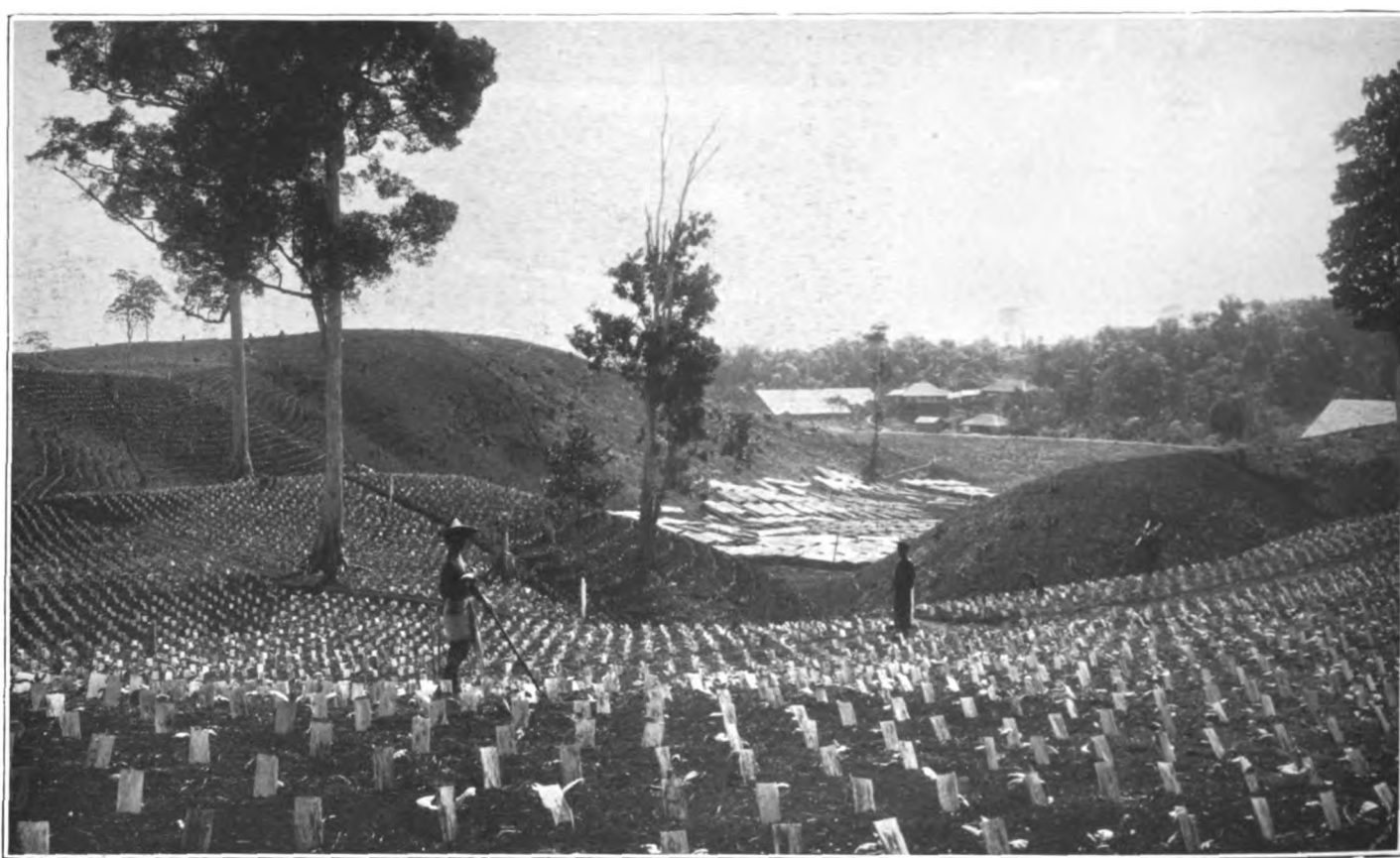
seed established a demand in various parts of the world, notably in the United States of America, where the Sumatra leaf qualities were quickly appreciated. As a result of the consequent competition Sumatra planters found themselves compelled to a policy of self-defence, and an association was formed and the export of seed prohibited. The best Sumatra seed is well dried, clean, of a true brown colour, hard and gritty to the touch and free from pellicules and other impurities; it sinks when immersed in water. Climate, soil, and seed have each their varying influence on the tobacco leaf, but the final influence lies necessarily in the methods of cultivation, a process resembling in its nicety the scientific or intensive gardening now acquiring a vogue in Western Europe.

The Sumatra planters use local labour, Bataks, Banjarese, Javanese, or Klings, for

praised according to its quality. A good worker whose crop has suffered through no fault of his own will, nevertheless, receive the full price of it; the "lankeh" whose crop has suffered by neglect will be docked accordingly. The timber on his field has been felled and burned for the "lankeh," but he is debited with the cost of the work. The work of stacking the timber and clearing the land, especially if the "burn" has not been a very good one, is a gigantic task, and it requires the patience and industry of the Chinese coolie to tackle it; but where the jungle is small or the land is under lallang, the work is much lighter in character. Each coolie, as he joins the kongsie, receives and is debited with one changkol, one rake, one bill-hook, two large buckets and one small one, and two thousand planks for shading the plants. If any fertilisers

inches, and is frequently stacked with unburnt wood or green stuff, which is then fired to enrich the soil and destroy larvae.

The bed, which lies east and west, is then twice changkoleed; narrow paths are made round it, and the earth thus taken up is piled upon the bed to raise its level; the surface is raked until the soil is fined, and a cover of lallang or attaps is laid over the bed, supported by forked sticks, three feet high, stuck in the ground. Each coolie is given his supply of seed for one bed at a time, and after mixing it with well-sifted white wood ashes, he sows it over the bed, the white ash allowing him to spread it evenly. This done, the coolie waters the bed and henceforward, morning and evening, he will water it with clean well water, reducing the amount of water as time goes on to give robustness to the seedling before



YOUNG TOBACCO PLANTS ON ONE OF THE DELI MAATSCHAPPIJ ESTATES.

the work of felling the jungle, building the coolie lines and the tobacco sheds, and draining and making roads. The actual planting and cultivation are done by Chinese imported labourers from Swatow and Amoy. These coolies sign for three years and are drafted among the various estates. They are "lankeh," old tobacco hands who have taken a holiday in China and returned, or "sinkeh," untrained hands, these latter being put on any handy work until they qualify for the skilled positions. The "lankeh" is given a field, 60 feet by 900 feet, which is marked out for him in the new clearing. This field is his to drain, cultivate, and harvest when the time comes. From that time he receives monthly advances of Fl. 5 or Fl. 6, which are debited to his account. On the credit side will figure his crop of tobacco, to be ap-

are used these are also debited to his account. This method of financing the coolie with monthly advances and debiting these against the results of his crop have been found to appeal strongly to the canny commercial instincts of the Chinese; it speaks well for the industry of the coolies and the honourable dealing of their employers, and has proved itself, by the sustained excellence of the crops, to be a most successful system.

Each coolie has to make up one seed-bed every week for seven or eight weeks, so as to be always supplied with well-grown seedlings throughout the planting season. Beds, as a rule, are three feet wide by eighteen or twenty feet or more in length. For such a bed one teaspoonful of seed suffices. The bed is made on thoroughly drained land, and well hoed to a depth of six or eight

transplanting takes place. Every morning at daybreak, and frequently at night-time, when nocturnal insects, worms and caterpillars are abroad, the coolie ferrets after them by the light of a little tin lamp. Weeding has also to be attended to closely. After some four weeks, when the seedling on its single stem has developed three or four leaves, the shade over the bed is made thinner, and, after a few days more, is completely withdrawn. Six weeks from the date of sowing, the young seedlings can generally be transplanted to the fields.

These fields have been already cleared of jungle and green stuffs, and a few charred logs and stumps alone remain. Just before transplantation, the coolie gives a last raking to the portion of his field he is about to plant with the six-week seedlings, breaking

up the lumps of earth. The field will be 60 feet broad and 900 feet long, that is a surface of 54,000 square feet, and the plants being set 18 inches apart in rows 3 feet apart, there will be 12,000 plants to a field. With string and strips of cotton and some sticks the coolie measures the distances, and a good day's work for one man will see 1,200 seedlings planted, that is to say, 30 rows of 40 plants each, or one-tenth of the field. Transplanting being a great shock to the young plant, it is necessary to give it shade for the first week of its new existence in the field. To this end each coolie is supplied with two thousand planks, 8 by 4 inches, which he sticks into the ground, slanting them so as to protect the plant from the rays of the sun. A good many plants die in transplantation, and have to be replaced by fresh seedlings with as little delay as possible, in order to ensure an even growth of field. After four or five days the plants revive, and start into vigorous growth immediately. They are then, a fortnight after transplanting, ridged by light paring of the earth between the rows and banking it to a height of 3 or 4 inches round the stems. This operation is repeated about two weeks later, the banking being raised to a height of 8 or 9 inches, and once more, one month later, when the banking is raised to 12 inches. It is held, notwithstanding the enormous labour involved, that this ridging and banking is justified by the truly marvellous gain in growth given to the plant. It must be completed, however, before the ripening period, as the new spurt of life is held by some authorities to injure the quality after this period. When the maturing period is approaching and the leaves having become more or less turgid and stiff, the plant is interfered with as little as possible, the leaves being now liable to break and thus lose greatly in value. When the plant is about a month old the coolie removes the bottom leaves, and buries them at the foot of the plant. When it has formed fifteen to eighteen leaves the terminal bud is broken off with the hand before flowering, which process immediately increases the size of the leaves. Suckers, which now appear on the axils of the leaves all up the stem, must also be removed, for if not so removed the plant becomes a weed, and the crop loses greatly in value.

Mention has been made of the depredations of insects and larvæ. The Sumatra tobacco plant has nothing to fear from pigs, deer, porcupines or such other fauna, but it is ever liable to the attacks of noxious grubs, worms, and other insects. If not guarded against, these may destroy a plant or a whole crop, or greatly mar the value of the leaf as a cigar-wrapper, which should, of course, be free of holes. The Deli planters fight this foe by hand-picking, sending all the available force of coolies and women and children through the fields, each with an empty tin, which they have to bring back at the end of the day's work with their catch of worms and caterpillars. In America this practice is not followed, but poison traps of bunches of leaves and green stuff, sprinkled with Paris green and bran, are dropped in various parts of a field. Fertilisers are largely used by the Dutch East India tobacco planters, guano, as a source of ammonia, being a great favourite.

HARVESTING, CURING, AND PACKING.—Planting begins about the middle of March; harvesting takes place between the beginning of May and the end of June. After harvesting the leaf has to be dried, fermented, sorted

and packed; towards the end of December the first bales are shipped to Holland. The first necessity of a harvest time is the drying shed. For every ten fields a drying shed has to be erected to receive the tobacco and dry it. These sheds are usually 180 feet long

lines of posts, 12 feet apart, with thirty posts in each line. From 5 feet above the ground, nearly to the apex of the roof, are stretched transversely ten tiers of poles. These transverse poles serve to support one end of the sticks (anaks cayu) from which hang the



SEED TOBACCO TREES.

and 72 feet broad, and 30 feet high in the centre, with sloping roofs, the eaves, front and back, being only 12 feet from the ground. From end to end of the building run seven

tobacco leaves during drying. The other end of the sticks rests on a similar pole fixed to the next row of posts. The harvesting is done leaf by leaf the millions and millions of

leaves are plucked one by one—the old system of cutting down the entire plant near the ground having been abandoned many years ago, as it was found that the top and the lower leaves could not thus have an equal ripeness. The crop of an estate of four hundred fields, about five hundred acres, will average about eighty millions of leaves. The plucking begins, after 9 a.m., and even earlier in dry weather, with the bottom leaves, directly they show ripeness, which is indicated by a drooping and swollen appearance and a diffused yellow hue; three or four leaves are plucked from one plant the same day. There are four series of pluckings:—

1. The bottom, or "sand leaf" (well liked in Germany but not in America).
2. The "foot leaf" (prime quality).
3. The "middle leaf."
4. The "top leaf" (short leaves, bearing nicotine, dark coloured).

The leaves are brought in baskets to the drying sheds, where they are strung on a piece of hemp string by means of a needle driven through the top of the stalk; two leaves are strung at a time, back to back. Forty

when there is ample moisture in the air. The coolies now tie up in bundles of forty leaves, leaving out the leaves measuring less than 8 inches, and remove the bundles to the fermenting shed, a building often 250 to 300 feet in length, without the transverse tiers of the drying sheds, but furnished, instead, with a stout plank floor occupying the entire interior except a 12-foot wall margin all round, where the coolies sit to sort the leaves. The floor has to be strong, having often to support 50 tons weight or more, in fact the whole crop at the end of the fermenting. The fermenting shed, being a permanent building, which the drying sheds are not, often costs as much as £10,000. It is not necessary here to describe in detail the fermenting process necessary for all tobacco, but it may be stated that fermentation has been greatly simplified by the introduction of the leaf-by-leaf picking, which serves in great measure to accomplish the fermentation by simple oxidation during the drying period. Less trouble of stacking and re-stacking the dried leaf is now necessary, or, as it is called, bulking; and a no-wise inferior wrapper leaf results.



SORTING THE LEAF.

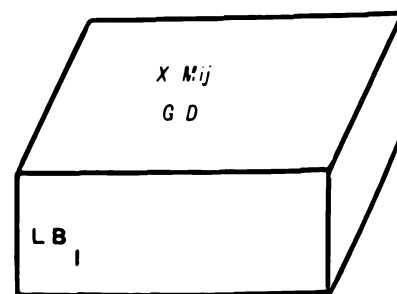
leaves are thus strung on the one string, and the lot is attached to a slat (anak cayu). The next morning the slats with the leaves are taken to the top of the building, and the new day's plucking is hung again at the same place as the previous one. As the upper tiers get filled, the drier leaves are lowered with slats to the tier below, so that the whole framework is filled gradually from top to bottom, the younger leaves at top. The picking of the leaves one by one ensures a right degree of ripeness, the hastening of the ripeness, and a reduction of nicotine. The leaves require about eighteen days to dry, their colour changing from green to bright yellow, to brick red, and then to a deeper shade. The "grey" leaf is the most desired to-day, as the acme of cigar wrappers, and much experimenting is conducted in order to induce its growth. When quite dry, the leaves are very brittle, and if handled in that state would crumble to dust; thus the bundling, the next process, can be done only

The sorting and grading of the finished leaves now claims attention. This is a most important stage in tobacco culture, for on the completeness of the sorting into lengths, colours, and qualities, and its conformity with the outside marks of the bales, depend the ultimate valuation of the crop on the Amsterdam market, where one bale out of every ten is opened. An estate acquiring in Amsterdam a bad reputation for sorting and grading of its bales will not quickly recover therefrom. The coolies working in pairs—one sorting in qualities, the other sorting in lengths and bundling—are seated round the floor, and each receives, say, fifty bundles of tobacco, which they have to apportion in piles in front of them, colour to colour, and length to length, the grey with the grey, the light brown with the light brown, the 12-inch leaves and the 16-inch leaves separately, and so on. The main descriptions of the tobacco, which will have to be marked later, on the outside of the bales, are:—

- L Light.
- D Dark.
- B Brown.
- V Vaal (grey violet).
- K Dead (mati).
- S Speckled.
- SS Large speckled.
- X Broken.

The lengths are 16, 14, 12 and 10 inches. Finally, the leaves are re-bundled, forty to the bundle. The bundles are then brought to the headmen, behind whom stand the European assistants, who watch that the leaves of a bundle are all of one quality and length. The faulty bundles are untied, and the coolie has to re-sort them again. Those passed as correct are put back in separate staples. Little room, under this system, is left for carelessness, but so great is the number of leaves that the human element enters, and perfection is hardly to be expected.

Deli tobacco is packed in bales of matting, 160 lb. to a bale, the dimensions being about 2 feet square and 1 foot high. A stout wooden box, also 2 feet square, but 3 feet high, is used, two sides of which open on the outside by dropping flat on their hinges. The box being closed, a new clean straw mat, and square, but somewhat larger than the box, is laid on the bottom of the box, its overlap being made to lie smoothly against the sides. Eighty kilos of tobacco (160 lb. roughly) are weighed, brought to the box, and, after smoothing by a little hand-stroking, each bundle is inserted side by side, the butt ends pointing outside. Layer by layer is put in the same way, the coolie now and then standing on the mass to press it down evenly. A second mat is then laid squarely on the top of the tobacco, so as to overlap exactly and evenly all the four sides of the box. The box is now put under the press and gradually pressed until the height of the tobacco is reduced to 1 foot, when the two movable flaps are opened, and coolies sew the overlaps of the top and bottom mats and square the ends tightly. The pressure is then released, the two other overlaps are sewn, and the bale is finished. It is then marked: first, the producer's name; secondly, the name of the estate; thirdly, the quality of the tobacco; fourthly, the length—thus:



Equivalent to X Maatschappij (Company).
G.D. Estate.
L.B. Light brown.
1. First length (16 inches).

SHIPPING AND MARKETING.—The zenith of prosperity for the industry in the Dutch East Indies was attained in 1907 as regards weight of crop, and in 1906 as regards gross value. The following table gives a general view of the wealth of the plantations at this period:—

	Java.	Sumatra.
Capital invested ...	...	£4,500,000
Bourse quotation, 1907 ...	...	£11,000,000
Crop bulk, 1907 (bales) ...	618,683	272,341
Crop value, 1906 ...	£2,240,000	£5,080,000
No. of fields, 1907 ...	...	35,485

It is worthy of remark that, as regards Sumatra, the record crop of 1907 appears to have been difficult of digestion, and prices accordingly suffered an average fall of 40 per cent. on the Amsterdam market. The crop, however, in this year suffered from two months of drought, which also considerably affected prices.

The first shipping of a crop begins in the latter half of December in each year. Belawan, the harbour of Deli, connects with the capital, Medan, by a railway constructed in 1800 by a private company, and is the port of shipment for the Sumatra tobacco.

The following tables give the districts in which lie the great plantations of the two islands, the size of the crop in 1907, the average price per ½ kilo in cents (5 cents to the penny), and the gross value in pounds sterling. The reader will easily remark the great difference in price in favour of the Sumatra leaf:—

JAVA.			
	Bales.	Price per ½ kilo. Cents.	Value. £
Besoeki	242,239	33½	1,100,000
Soerakarta and Djoejakarta ...	116,063	55	792,500
Pasoeroean (Loemadjang) ...	88,724	24½	320,410
Kediri	60,180	14	140,083
Pasoeroean (Malang)	33,428	14½	76,600
Banjoemas ...	15,308	24½	50,250
Kedoe	27,000	11	40,000
Rembang ...	23,521	11½	44,000
Semarang ...	5,500	10	8,750
Preanger Regent-schappen ...	702	9½	1,000
Total ...	618,683	mean 30	£2,658,325

SUMATRA.			
	Bales.	Price per ½ kilo. Cents.	Value. £
Deli	100,305	90	1,362,083
Langkat	75,545	90	970,000
Serdang	45,013	78	460,000
Asahan	12,731	80	133,333
Padang	10,230	83	100,583
Bedagei	8,580	78	80,250
Batoe Bahru ...	7,903	65½	60,600
Batak Landen ...	2,220	84	25,000
Various	3,190	30	12,084
Total ...	272,341	mean 91	£3,231,065

Of the two markets in Holland, that at Amsterdam secures and disposes of by far the larger proportion of the whole harvest. The following table shows the destination of Java and Sumatra shipments for the year 1907:—

DESTINATION OF CROP, 1907.

	Java.	Sumatra.
To Amsterdam (bales)	450,589	252,503
„ Rotterdam ..	153,941	19,838

Space will not permit of a tabular summary of the activities of the various companies engaged in this great industry, but the extent and operations of a few may be given as illustrative of the whole. By far the largest company engaged is the Deli Maatschappij. The only British company operating in Sumatra to-day is the United Lankat Plantations Company, Ltd. The following table gives the names, capital, acreage, marks, bales shipped, and prices obtained in 1906 of a few important companies:—

	£	*Bouws.	Marks.	Bales.	Prices per ½ kilo. cents.
Amsterdam Langkat Cie...	152,000	23,204	Amst. Langkat Cie WB	5,057	100
Deli Cultuur Maatschappij	200,000	7,600	DCM Deli	7,276	170
Deli Maatschappij ...	607,000	108,021	Deli Maatschappij A.&c.	62,481	160
Nieuwe Asahan Tabak Maatschappij	200,000	38,377	NATM F&c.	9,176	152
Rimboen Tabak Syndicaat	141,700	6,605	W&vS Deli Langkat A B	4,916	150
United Lankat Plantations Company, Ltd. ...	225,438	23,344	LPC Doerian Moelan, &c.	10,055	188

* A bouw = 175 acres.

There are, besides the forty public companies, a number of private companies and individual planters in Sumatra, with holdings ranging from 8,000 to 500 bouws, but in no year since 1901 have these, altogether, supplied more than 7 per cent of the total crop.

The following tables give the output, price, and average value of the Java and Sumatra crops since the year 1871:—

JAVA.			
Crop.	Bales.	Cents.	Fl.
1871	129,070	74	15,450,000
1872	206,035	50½	18,610,000
1873	239,807	50	22,410,000
1874	177,203	78½	22,510,000
1875	183,407	50	15,138,000
1876	100,003	55½	17,273,000
1877	130,074	30½	7,133,000
1878	153,630	50½	14,733,000
1879	50,271	60	5,430,000
1880	140,630	40	10,007,000
1881	195,771	27	9,100,000
1882	73,798	28½	3,570,000
1883	70,473	48	6,415,000
1884	122,806	30½	7,820,000
1885	100,701	30½	7,228,000
1886	100,640	37	6,822,000
1887	138,300	38½	9,254,000
1888	160,808	20½	7,025,000
1889	141,150	31	7,500,000
1890	182,400	25½	8,000,000
1891	130,720	33½	7,838,000
1892	170,350	33½	10,100,000
1893	219,057	20½	10,210,000
1894	153,344	30½	8,000,000
1895	153,350	38	9,810,000
1896	107,243	40	13,440,000
1897	206,328	33½	15,000,000
1898	307,130	32½	16,005,000
1899	371,414	21½	13,800,000
1900	241,802	30½	12,515,000
1901	307,214	25½	13,155,000
1902	337,071	21	12,105,000
1903	330,712	30	17,415,000
1904	328,005	28½	16,075,000
1905	432,310	28½	22,305,000
1906	515,084	29½	26,900,000
1907	618,683	30	31,900,000

35½ cents.

NOTE. £1 = 12 florins.

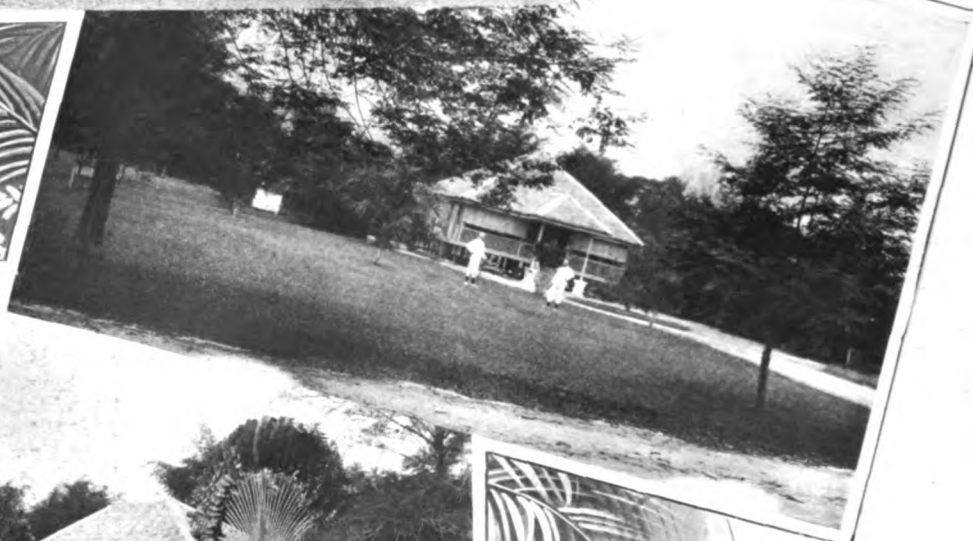
SUMATRA.			
Crop.	Bales.	Cents.	Fl.
1871	3,922	137	750,000
1872	6,400	132	1,000,000
1873	9,238	182	2,500,000
1874	12,805	152½	2,881,000
1875	15,355	170	3,921,000
1876	29,034	154	6,504,000
1877	30,517	127	6,810,000
1878	48,545	120	9,200,000
1879	57,500	118	10,350,000
1880	64,995	113	11,251,000
1881	82,362	115	14,750,000
1882	102,047	137½	21,500,000
1883	93,533	133	19,000,000
1884	125,447	145	27,650,000

Crop.	Bales.	Cents.	Fl.
1885	124,718	141	20,870,000
1886	138,043	154	32,450,000
1887	130,582	121½	25,050,000
1888	108,114	120	33,120,000
1889	101,507	148	30,507,000
1890	210,044	73½	24,510,000
1891	200,257	92½	20,180,000
1892	130,381	125	20,000,000
1893	102,972	144½	30,152,000
1894	100,001	110	34,050,000
1895	200,021	90	27,740,000
1896	180,030	111½	32,250,000
1897	200,004	122	37,335,000
1898	233,400	92	32,082,000
1899	250,035	82½	32,875,000
1900	221,410	111½	37,970,000
1901	224,271	94½	32,450,000
1902	237,506	80	31,200,000
1903	240,807	93½	35,400,000
1904	233,677	90	35,975,000
1905	225,370	155	53,845,000
1906	240,830	150	61,000,000
1907	272,341	91	38,780,000

114 cents.

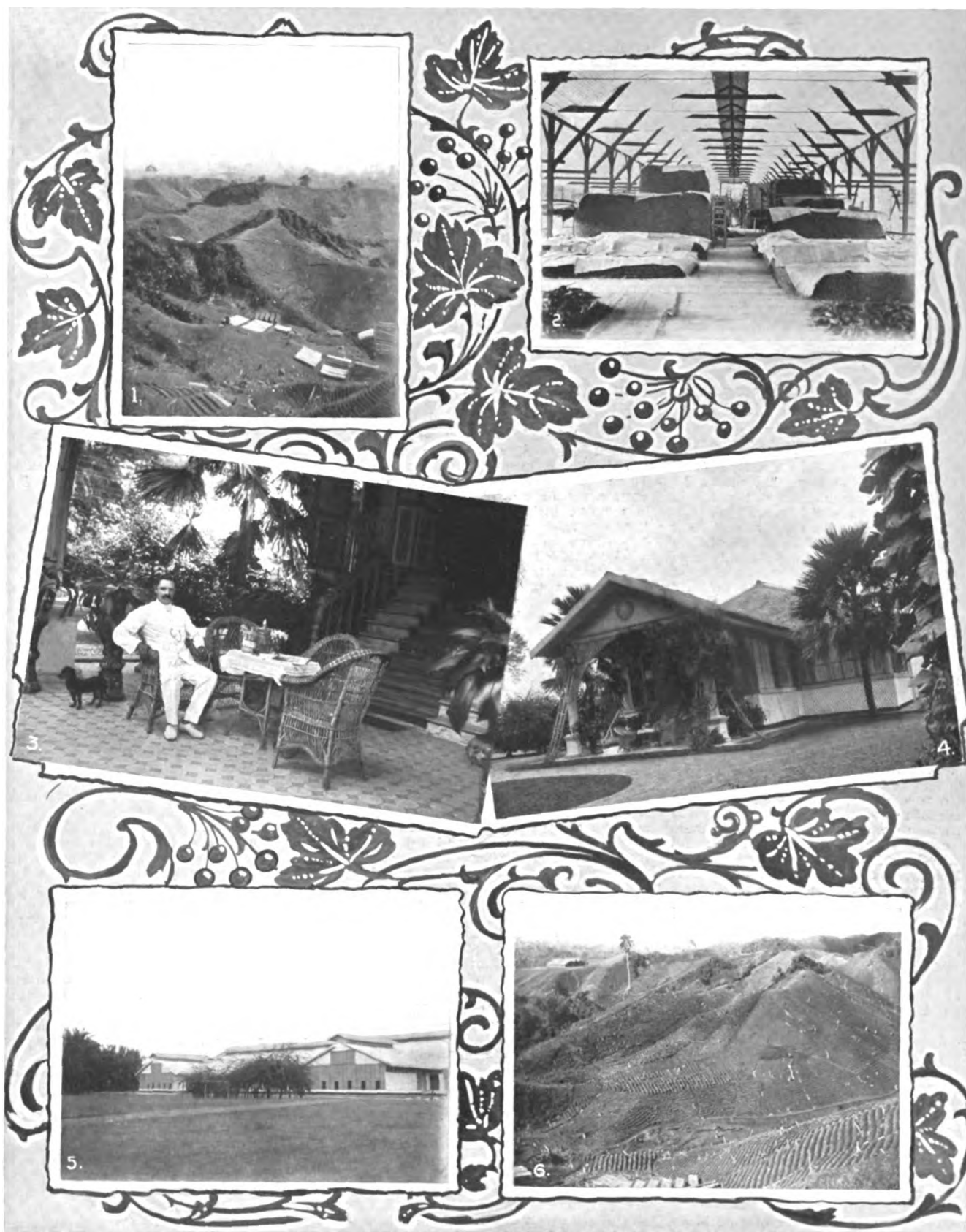
BROKERAGE AND AUCTIONING. Practically the entire crop is consigned to Holland; by far the larger quantity, as we have seen, to Amsterdam. It is there sold for cash against secret tender to the highest bidder. Where companies employ agents to handle their consignments on arrival, the duties of the agent are to warehouse and insure the tobacco, and to arrange its transfer to the buyer. To Frascati at Amsterdam, a most unpretentious and incommensurate mart considering the millions of money passing from buyer to seller, and to the smaller Rotterdam market, come the representatives of the world's tobacco merchants and manufacturers. As the crop has increased in quantity with the extension of plantations, so the number of sales throughout the year has gradually grown. The market year extends from March to July, with four additional sales in September and October. During the year 1909 ten sales were held in the early part of the year, and four in the ensuing autumn at Amsterdam, while two were held in Rotterdam. It is the custom to put up the Sumatra and Java tobaccos at separate auctions, the dispersal of thirty thousand bales at a single sale being not uncommon. The planting company or agent can hold his stock in bond from time to time for what he may deem to be the most favourable opportunity for sale, but at no sale may the proportion allotted by the market authorities to each consignor be exceeded. Practically the entire crop of any one year is sold off in the year following.

It has been mentioned that the custom of the trade exacts the sampling of one bale in ten, and it will readily be believed that even this is no small task to be performed by the official brokers in the first place, and again in due course in the sale rooms by the various buyers. There are ten official



See page 398.]

VIEWS ON THE BANDAR BEDJAMBOE ESTATE.
(Deli-Padang Company).



VIEWS OF ST. CYR ESTATE.
(Deli-Langkat Tabak Maatschappij).

[80] (p. 38)

1 and 6. TOBACCO FIELDS. 2. A DRYING SHED. 3. W. J. A. BUYZER (Head Administrator). 4. RESIDENCE OF THE HEAD ADMINISTRATOR. 5. STORAGE SHEDS.

FIG. 2

brokers, to any four of whom the large companies submit their stocks for official appraisal, or, as it is styled in Dutch, *Makelaars Taxatiën*. A commission is charged for this formality on the selling price, and is payable by the importer. The estimated values of each consignment at any sale, as indicated by the brokers employed, are printed on lists officially issued to intending buyers, the mean, or average, of the various estimates having a column to itself. It is contended that this "taxing" practice is somewhat superfluous, as at the actual sale the tobacco invariably fetches a much higher price than the official estimate; in some instances bales "taxed" at 130 c. the half-kilo have fetched upwards of 300 c. In the week of sale, Monday, Tuesday, and Wednesday are the days

allotted for buyers to inspect the lots offered, and are styled *Taxeerdagen*. Thursday is revision day, *Kijkdag* in the Dutch; a most necessary institution for the harassed European or American buyer who has hopelessly forgotten by Wednesday the characteristics of the quantities of the tobacco sampled by him on the Monday and the Tuesday. Friday is the actual sale day, or *Inschrijvingdag*, and the market then works at the highest pressure. Each consignment is put up to secret tender, ten to fifteen minutes being allowed for the delivery and examination of the tenders for its purchase, beginning at ten o'clock and terminating early in the afternoon. It should be mentioned that a consignment not infrequently contains one or more parcels not required by the successful

purchaser, in which case it devolves on him to resell on the spot if possible. Thus, sketched *en silhouette*, the product of the famous tobacco plantations of the Dutch East Indies is dispersed among the various manufacturers of the world, the chief buyers besides the Dutch being the Germans and Americans. It remains only to be stated that the entire industry is immensely creditable to the pioneering and commercial aptitudes of the Dutch people. At the one end we have indifference to the trials of an equatorial climate, industry, enthusiasm, horticultural and administrative skill; in the Netherlands markets of Amsterdam and Rotterdam we have the acumen and the unimpeachable integrity always associated with Dutch commerce.

SUMATRA ESTATES.

DELI MAATSCHAPPIJ.

THE modern history of the development of the East Coast of Sumatra may almost be said to commence with the visit which in 1863 a small commercial expedition from Java paid to Deli. The expedition in itself was unsuccessful, for although the Sultan of Deli welcomed the traders and made several agreements with them, none of these proved in the long run of any practical value. One of the members of the expedition, however, was Mr. J. Nienhuijs, a Java tobacco planter. He was impressed with the possibilities of the country for the cultivation of the tobacco plant, and having obtained the financial support of a Rotterdam firm, he allowed his colleagues to return without him, and remained behind to put his theories to the test. In 1865 Mr. Nienhuijs despatched his first consignment of tobacco, consisting of fifty cases, to Europe; the following year the amount was increased to 189 bales. In this modest fashion began the enterprise which was shortly to develop into the "Deli Maatschappij"—a corporation whose influence in opening up the country to trade and commerce generally, and in fostering and developing the great tobacco industry particularly, has been wellnigh incalculable. The tobacco sent to Holland by Mr. Nienhuijs obtained the warm approval of connoisseurs, and the success of his undertaking now being assured, further capital was quickly forthcoming. Acting on the advice of a Mr. Clemens, Mr. P. W. Janssen invested money in the enterprise, and a little later, when still more land was required, the Netherlands Trading Society lent a helping hand. On October 28, 1869, an agreement was signed with the Netherlands Trading Society for the establishment of the "Deli Maatschappij," with a capital of G. 300,000, to carry on the industry. The progress the Company has made furnishes something in the nature of a record in the annals of the Dutch colonies. The land in its possession in 1869 was, roughly, 10,000 acres; now it owns more than twenty times this area of good, fertile soil, comprising twenty-one estates spread over the districts of Deli and Langkat, and has a capital of G. 9,000,000. Last year alone 67,868 bales of Deli Maatschappij tobacco were sold in the Amsterdam market. Each estate has a European manager and six or seven European assistants, the total number of Europeans in the service of the Company being well over a hundred.

Twenty thousand workmen are kept in constant employment, and the number is considerably augmented during busy seasons. There has always been a hospital at headquarters for the care of sick coolies. This, in the first instance, was in charge of a European apothecary. Since 1871, however, it has been under the direct supervision of a fully qualified European doctor. It has been enlarged from time to time, and now provides accommodation for four hundred patients, whilst two new hospitals have been erected, one in Bindjei, and the other on the Leoboe Dalam Estate.

All the Company's estates are conducted on the most approved modern lines, and, broadly speaking, the Company has had a record of steady, continuous prosperity. This does not mean, however, that there have been no times of danger or difficulty. In 1872 a Batak war, although speedily ended, was sufficiently serious to cause great unrest among the planters, and injured, to some extent, the Company's newly acquired credit. Gangs of robbers, chiefly Gajoes and Achinese, have at times invaded the country, and adversity of various kinds has necessitated the entire closing of several estates. But the labour problem has been the chief trouble. The country was so thinly populated that from the commencement of operations the greatest difficulty was experienced in obtaining a sufficient number of coolies for work on the land. The Deli Planters' Association entered thoroughly into the question, and accomplished a considerable amount of good by framing certain rules governing the employment of coolie labour, which were consistently observed by all the members of the society. Unfortunately, however, for the satisfactory solution of the problem, some planters considered it a disadvantage to bind themselves to the regulations of the association. They offered more than the standard rate of wages, and agents, working on commission from the planters went all over the country endeavouring to persuade the coolies employed by the members of the association to desert. The desertion of coolies still causes some considerable inconvenience, but arrangements have been made for obtaining men direct from South China, so that the supply of labour is now generally equal to the demand. During the first years of the Company's administration the coolies were answerable to native law, and the managers of the various estates generally took it upon themselves to dispense justice

in petty cases. In 1875 they were brought under the jurisdiction of the ordinary laws of Netherlands India. As, however, certain additional regulations had to be made in order to meet the special circumstances of the people, the Government, at the instigation of the planters, promulgated a law known as the "Koeli Ordinantie," adjusting the rights and liabilities of both planters and employés.

A general review of the Company's progress reveals a considerable discrepancy between the expectations of the promoters of the enterprise and the scope of its present-day activities, for the undertaking has progressed on lines somewhat different to those anticipated. The founders wished to develop the nutmeg gardens, and to go in largely for the cultivation of coconuts. The difficulty of obtaining sufficient labourers, however, soon made it prudent to give up the latter industry, while the high export duty on nutmegs reduced the profit of the nutmeg gardens to a minimum. When, in addition, disease began to attack the trees, the Company's losses were heavy, and the culture was abandoned altogether. After several attempts at growing cotton, cacao, coffee, and other plants it was decided that tobacco alone yielded a profit, and the Company now devotes its attention entirely to the tobacco trade. With the extension of the Deli Maatschappij has come an increased prosperity to the whole district, for the Company advances money on the produce of other planters, and superintends its sale in the Amsterdam market. The quantities of tobacco entrusted to it have increased enormously during recent years: in 1871 it sold 160 bales for other planters; in 1874 620 bales; in 1875 2,261 bales; in 1878 14,000 bales; in 1883 20,000; and last year no less than 57,500 bales. It is recognised that the market is strengthened when large quantities of tobacco to be sold are controlled by one corporation, and this method of transacting business has conducted not only to the profit of the Deli Maatschappij, but to the prosperity of the whole industry.

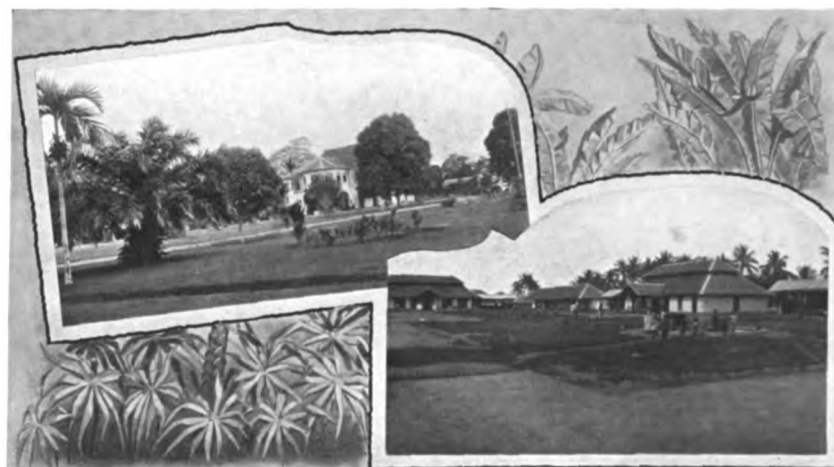
This brief sketch of the Company's career may be fittingly brought to a close with a reference to those men who have controlled its destinies. Mr. J. Nienhuijs was only for a short time the leader of the great business in Sumatra, for he returned home in 1871. He was succeeded by his former assistant, Mr. E. A. F. Straatmann, and Mr. J. T. Cremer as joint managers. A few years later Mr. J. Krol became associated with

Mr. Cremer and Mr. Straatmann and remained in Sumatra until 1881. Mr. Straatman returned to Europe in 1880, but died in Paris very shortly afterwards. Mr. H. Herrings succeeded Mr. Krol and remained in office until 1883. Mr. Cremer, after leaving Deli, had a highly successful political career, and was for some time Secretary of State for the Colonies. The successor of Messrs. Cremer and Herrings was Mr. H. van den Honert. He was succeeded, in 1892, by Mr. Kolff, who, in his turn, gave place, four years later, to Mr. H. Ingerman. Mr. J. van Vollenhoven was appointed manager in 1902, and has held the position with credit to himself and profit to the Company ever since. He is assisted in the Medan office by two inspectors, Messrs. J. Stecher and H. J. Muller, a secretary, Mr. W. H. van Tijen, and seven clerks for general office work.

MR. J. VAN VOLLENHOVEN was born in Rotterdam on December 13, 1866. When fifteen years of age he became an apprentice in a machine factory, and, after completing his technical education, he was employed in his father's timber business. In his twenty-second year he arrived in Deli as an assistant in the service of the Deli Maatschappij, being appointed to the Tandjong Djatti Estate in August, 1889. He was transferred to the Tandjong Slammat Estate, which had just been taken over by the Deli Maatschappij from the Langkat Company, Ltd., in what was known as the "Acheen" year—1893. A garrison of 150 men was stationed at Tandjong Slammat, but although bands of Achinese roved about in the neighbourhood, and the inhabitants of Pangkalan Berandan had to flee, Tandjong Slammat was spared an attack. In 1897 Mr. van Vollenhoven left Deli to acquaint himself with the petroleum business of the Dordt Petroleum Company in Sourabaya. Returning to headquarters the following year he conducted the boring operations in the Besitang district on behalf of the Deli Maatschappij, living all the while in the virgin forest, two days' journey from the nearest coast settlement, with only two Europeans for company. In the early part of 1899 Mr. van Vollenhoven was sent to Tamiang to select a site for a new tobacco estate, and, as was customary in those days, had to carry on his work under protection of a military escort. Then came six months' furlough after which he was appointed manager of Leopoe Dalam Estate, a position he held until within a few months of his being chosen by the manager of the Company to undertake temporarily the duties of the secretary. In September, 1901, Mr. H. Ingerman, the general manager, left for Holland on account of ill-health, and Mr. van Vollenhoven then assumed the responsibilities of acting general manager, in addition to the secretarial duties. When the secretary returned from leave, Mr. van Vollenhoven became inspector of the Deli Estates; but it was not a post he was destined to hold for long, as upon the arrival of Mr. P. Kolff, the delegate of the directors of the Deli Maatschappij in Amsterdam, in March, 1902, he was chosen as general manager in succession to Mr. H. Ingerman, whose retirement on account of continued ill-health had just been announced. Mr. van Vollenhoven also succeeded Mr. Ingerman as president of the Planters' Association and when, in 1903, Mr. Remrey visited all the estates on the East Coast of Sumatra, to institute a Government inquiry into the condition of labour Mr. van Vollenhoven accompanied him on behalf of the Planters' Committee. In the same year

Mr. van Vollenhoven, accompanied by Messrs. Tweer and Schuffner, general manager and doctor of the Senembat Company, went to China to study the emigration question. Both he and his companions made the return journey in a coolie steamer, and were thus able to appreciate the great necessity there was for some alteration in the conditions of transport. The following year Mr. van Vollenhoven visited Java in the interests of coolie emigration, and the improved type of steamer now engaged in the traffic between China and Deli is largely due to the unremitting attention he has paid to the subject. Like the previous general manager, Mr. van Vollenhoven was appointed president of the Board of the Asylum for Emigrants and President of the Local Committee of the Deli Railway Company. He was president of the British Deli and Langkat Tobacco Company, Limited, until that Company became the Rimboen Tobacco Company, in 1905, when he was appointed its general manager. He has also been President of the Board of the Deli Experimental Station since it has ceased to be subordinate to the Government Agricultural Department. Mr. van Vollenhoven takes an active part in public life. He is a member of the Com-

Medan in a little over two hours, is similar to that of southern Italy, the temperature in the mornings being about 57° Fahrenheit. With Mr. van Vollenhoven rests the responsibility for the introduction of motor-cars for use on the estates. In 1907, in company with several ladies and gentlemen, among whom were Mr. and Mrs. J. T. Cremer, he made a memorable motor trip to the Toba Lake, and after the Deli Maatschappij had set the fashion many others followed suit, until now there are about ninety cars in continual use in the district. Previous to the Toba Lake trip only two people owned cars in Deli. In recognition of the important part he had played in developing the resources of the Dutch East Indian Possessions and especially in advancing the welfare and prosperity of the East Coast of Sumatra, Mr. van Vollenhoven last year was nominated an officer of the Order of Orange Nassau by Her Majesty Queen Wilhelmina. Practically the whole of his life has been spent in Netherlands India, and for the past eight years he has had upon his shoulders the responsibility of the management of one of the largest commercial organisations in the country. No one will wonder, therefore, at his desire to return to Holland at the end of



MEDAN TABAK MAATSCHAPPIJ, SOENGEI SIKAMBING.

1. RESIDENCE OF THE HEAD ADMINISTRATOR (K. KRUGER).

2. JAVANESE LINES.

mittee entrusted with the management of the municipal funds of Medan; a member of the District Council of Deli (now known as the Council for the Culture); a member of the Provincial Court of Justice (Landraad); Major-Commanding the Volunteer Corps "Sumatra's East Coast"; "Commissaris," of the funds for European paupers; President of the new Deli Race Club; President of the "Witte" Club; and President of the Association for Nursing the Sick on the East Coast of Sumatra. Whilst on furlough in Holland in 1905 he conferred with the directors of the Deli Maatschappij, the Senembat Company, and the Medan Tobacco Company, upon the necessity of a pathological laboratory for Deli, and since his return, one has been founded and is now in charge of Dr. W. A. Kuenen. Mr. van Vollenhoven has a charming residence at Goendaling, near Berastagih. It stands at some considerable distance above sea-level, in the midst of delightful scenery and commands a lovely view of the Batak plateau and the mountains, with the volcanoes of Libayak and Sinabong. The climate of Goendaling, which is reached by motor-car from

the present year and to dissociate himself then from commercial pursuits. His rest has been well earned. Mr. van Vollenhoven married, in 1904, the widow of Mr. Adama van Schellema, *née* M. L. Rochussen.

MEDAN TABAK MAATSCHAPPIJ.

THE Medan Tobacco Company was founded on November 28, 1890, with a capital of Fl. 4,000,000, of which Fl. 1,800,000 was paid up. The head offices are in Amsterdam. The chief director of the Company is Dr. C. A. Janssen; the secretary, Mr. F. de Bruyn, whilst the members of the board include Messrs. J. Nienhuys, J. T. Cremer, G. E. Haarsma and E. Tweer. In Netherlands India the Company's interests are in the charge of Mr. Kurt Kruger, the general manager; Mr. S. H. Bosschart, secretary; Dr. O. Imhof, medical attendant, and Mr. A. J. van de Laak, the apothecary. The local offices are at Soengei Sikambing.

The Company owns four estates—Two Rivers, Kwala Namoe, Selayang, and Soengei Sikambing, of which Kwala Namoe is the largest and Soengei Sikambing the smallest.

The Two Rivers Estate consists of the



UNITED LANKAT PLANTATIONS COMPANY, LIMITED, LANGKAT.

1. RESIDENCE OF THE HEAD ADMINISTRATOR AT PADANG TERMIN. 2. BATAK KAMPONG ON ESTATE.
3. ROAD THROUGH ONE OF THE ESTATES SHOWING TOBACCO SHEDS ON RIGHT.

See page 398.]



BINDJEI TOBACCO COMPANY, LANGKAT.

1. FERMENTING SHED.
2. N. J. HOORWEG, THE ADMINISTRATOR IN CHARGE, AND ASSISTANTS ON BINDJEI ESTATE.

3. ASSISTANTS ON LAU BOENGOE ESTATE.
4. THE ESTABLISHMENT, BINDJEI ESTATE.

[See page 308.]

"Two Rivers" and "Petani" concessions, of 3,833 and 1,940 bouws respectively. The manager is Mr. J. Huges.

The Kwala Namoe estate embraces the Kwala Namoe concession of 4,400 bouws and that of Toompatan of 5,760 bouws. It is managed by Mr. P. R. J. Tack, who is assisted by Mr. J. D. Uhlenbeck.

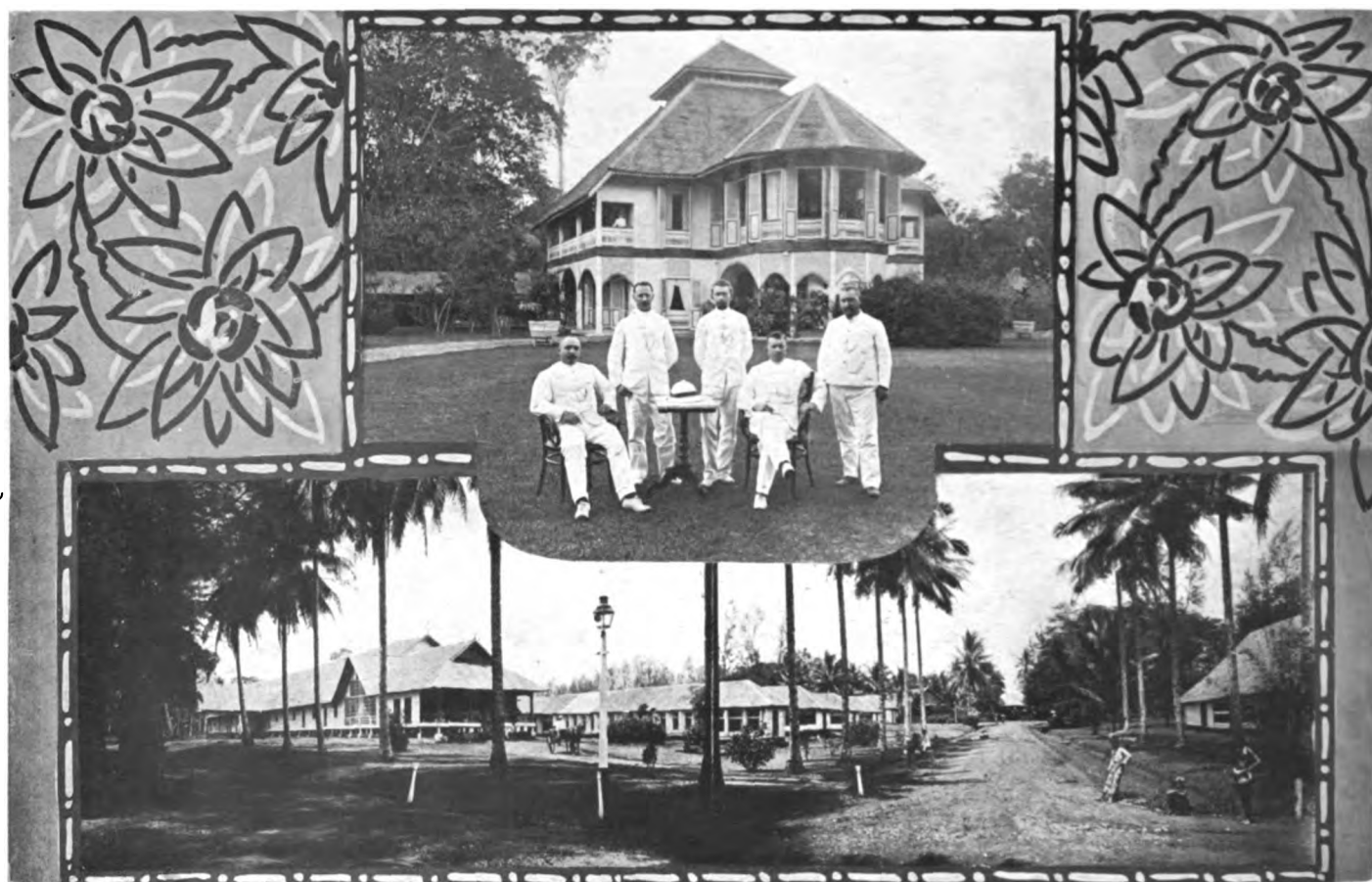
The Selayang Estate, consisting of the Androng concession, is managed by Mr. D. C. Samson and comprises 6,640 bouws.

The Soengei Sikambing Estate is made up of three concessions:—Soengei Sikambing, 1,400 bouws; Soengei Peotih, 800 bouws; and Soengei Agoel, 300 bouws, and is under the management of Mr. P. J. Blick.

continuous has been the advance made by this well-known Company of tobacco planters since its incorporation in 1879. In the first instance the capital was Fl. 600,000, of which Fl. 500,000 were issued; the fully paid up capital in 1886 was Fl. 700,000, and in 1888 Fl. 1,000,000, while in 1907 it was still further increased. The capital now is Fl. 2,000,000, of which Fl. 1,000,000 are paid up. The concessions and estates owned by the Company are:—

Name of Concession.	Area.	Name of Estate.	Tobacco Mark.
Padang		Padang	
Boelan	3,396 bouws	Boelan	S B
Rudolfburg	295 "		

Crop.	Bales.	Prices realised, cents per kilo or unit.	Dividend paid per cent.
1879	1,424	96	
1880	1,400	106	
1881	2,463	117	
1882	4,104	148	
1883	4,231	141	
1884	7,658	151	
1885	7,111	142	50
1886	7,838	149	80
1887	6,747	101	25
1888	9,479	120	42½
1889	11,494	125	41
1890	14,333	55½	—
1891	10,949	100	10



See page 398.]

AMSTERDAM-LANGKAT COMPANY.

MANAGERS AND BOOKKEEPER AND HEAD MANAGER'S RESIDENCE, BEKIOEN ESTATE.

THE ESTABLISHMENT, BEKIOEN ESTATE.

The following figures show the production of the Company and the dividends paid for the last ten years:—

	Packs.	Per unit.	Dividend.
		Fl.	
1898	5,217	at '07	10 per cent.
1899	6,892	" '94	10 "
1900	6,308	" 1'24	18 "
1901	7,783	" '87	5 "
1902	7,928	" '77	nil
1903	10,328	" 1'00	11 "
1904	8,489	" 1'08	11 "
1905	8,278	" 1'57	20 "
1906	10,294	" 1'48	20 "
1907	11,201	" 1'00	—
1908	11,071	" —	—

AMSTERDAM-DELI COMPANY.

THE number of times it has been found necessary to increase the capital shows how

Sembahe	5397 bouws	} Kalahoen	/V
Kalahoen			
Penang	2,043 "	} Gloegoer	/A
Gloegoer	3,140 "		
Bekri	700 "	} Amplas	/J H
Amplas	2,371 "		
Ramboetan	3,930 "	} Ramboetan	C
Paja Bajas	2,308 "		

The management of the Company is in the hands of two directors—J. H. A. A. Kalif and Hugo Muller—and an advisory board whose members are C. H. van Tienhoven, M. J. Tiele, and A. Roelvink. The staff in Deli comprises J. S. C. Kasteleyn, head administrator (on leave), D. W. Kappelle, acting head administrator, and C. J. Manders, secretary.

The following figures show the extent of the crops during the past twenty-nine years, the prices realised for the tobacco, and the dividends the Company has paid:—

1892	6,026	140	30
1893	9,060	201	95
1894	10,349	105	78
1895	9,900	100½	15
1896	8,191	133	36
1897	10,221	177½	92½
1898	10,720	139	72
1899	10,903	125½	57
1900	8,913	148½	70
1901	10,976	111	45
1902	10,956	114½	41
1903	9,451	93	19
1904	10,074	159	70
1905	10,906	216½	100
1906	12,244	201	80
1907	11,861	97	—

SENEMBAH MAATSCHAPPIJ.

THE Senembah Maatschappij was founded in Amsterdam in 1890 with a capital of Fl. 1,500,000. The tobacco estates it owns

are situated in Deli and Serdang, on the East Coast of Sumatra, and comprise :—

	Bouws.	Manager.
Tandjong Morawa	9,510	A. C. v. d. Schroeff.
Tandjong Morawa		
Kiri	5,035	A. Tameling.
Soengei Bahasa ...	9,467	O. von Ruepprecht.
Batang Kwis ...	7,892	K. Waldeck.
Patoembah ...	5,436	M. J. Salm.
Goenoeng Rinteh	12,819	P. v. d. Beek.

The following figures show the extent of the crops raised and the prices realised for the tobacco during the past six years :—

	1903	16,325 bales.	Price	Fl. 1.01 per unit.
1904	15,936	"	"	.80
1905	15,161	"	"	1.31
1906	16,162	"	"	1.53
1907	20,113	"	"	.80
1908	18,316	"	"	—

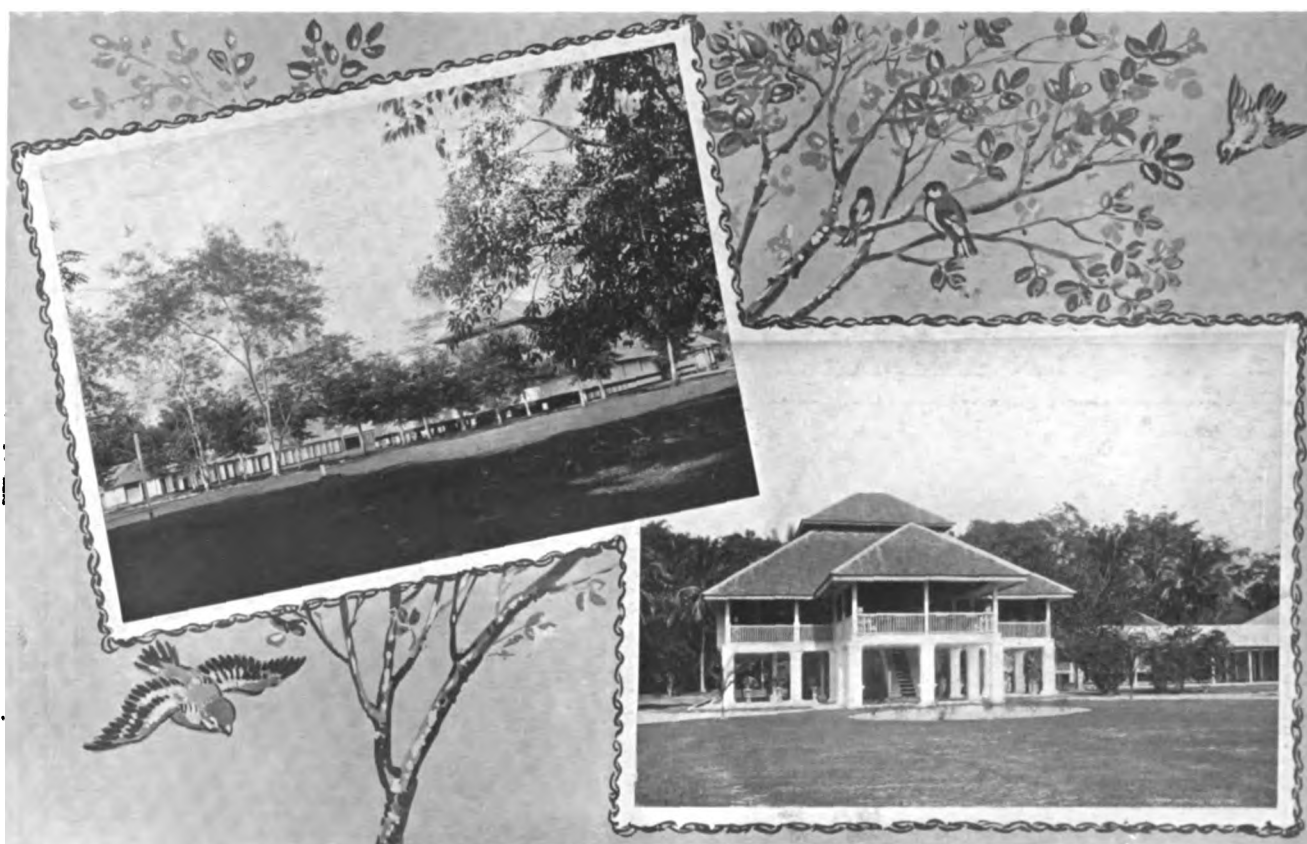
six years earlier, and who eventually became the head manager of the Company. The Company's property was then rapidly extended by the purchase of four other plantations, viz.:—Timbag Langkat in 1876, Tandem (in the Sultanate of Langkat) in 1880, Petani (in Deli proper) in 1882, and Tandem Hilir (in the Sultanate of Langkat) in 1883. The profits obtained from these five estates were so encouraging that operations were extended to the province of Batoe Bahra by taking over the Lima Poeloe Estate in 1884 and the Sennah Estate in 1887. These latter ventures, however, were unsuccessful, and two years later the properties were sold. Subsequently, also, the Company disposed of the Petani Estate. In 1905 good tobacco-growing land was found in upper Serdang, and in 1906 the Estate Sarang Giting was opened by the Deli Batavia Maatschappij in that district,

ROTTERDAM-DELI MAATSCHAPPIJ.

THE Rotterdam-Deli Company, founded in 1888 in Rotterdam with a capital of Fl. 1,200,000, owns the tobacco estates Arnheimia, Pabatoe, and Goenoeng Kataran.

The Arnheimia Estate—the native name of which is Pantjoeran Batoe—has an area of 3,026 bouws, and is situated in the province of Deli, about 15 miles from Medan, the nearest railway station being that of Arnheimia. The tobacco is shipped under the trade mark "R.D.M., Arnheimia, Deli." Mr. J. A. de Sonnaville is the manager of the estate.

The Pabatoe Estate, known by the natives as Kedeh Damar, has an area of 4,027 bouws, and is under the management of Mr. A. Kaiser. It is situated a little over two miles from the Tebing Tinggi railway station, in



VIEWS OF LOEBOEG PAKAM ESTATE, SERDANG.
(The Sumatra Cultuur Maatschappij.)

The director of the Company is Dr. C. W. Janssen, and the members of the committee include :—J. T. Cremer, E. von Seutter, D. Rahusen, G. Haarsma, and E. Tweer. The head-manager in Deli is Mr. L. Weigand; the sub-manager, Mr. K. H. H. Leonhard; the medical officer, Dr. W. Scheutner; and the apothecary, Mr. W. v. d. Broek.

DELI-BATAVIA MAATSCHAPPIJ.

THE Deli Batavia Maatschappij, now one of the most prosperous tobacco companies on the East Coast of Sumatra, was established in February, 1875. Its first Estate, Gedong Djohore, situated in Deli proper, was purchased from the owner, Mr. H. J. L. Leysius, who had commenced planting there some

while arrangements have been made for planting rubber next year on the Sarang Giting Hilir Estate, in the same province.

The crops raised by the Company have increased from 811 bales of Amst. pounds in 1875 to 16,021 bales in 1908. The prices realised for the tobacco, however, have fluctuated from 80 cents in 1898 to 192 cents per Amst. pound in 1905.

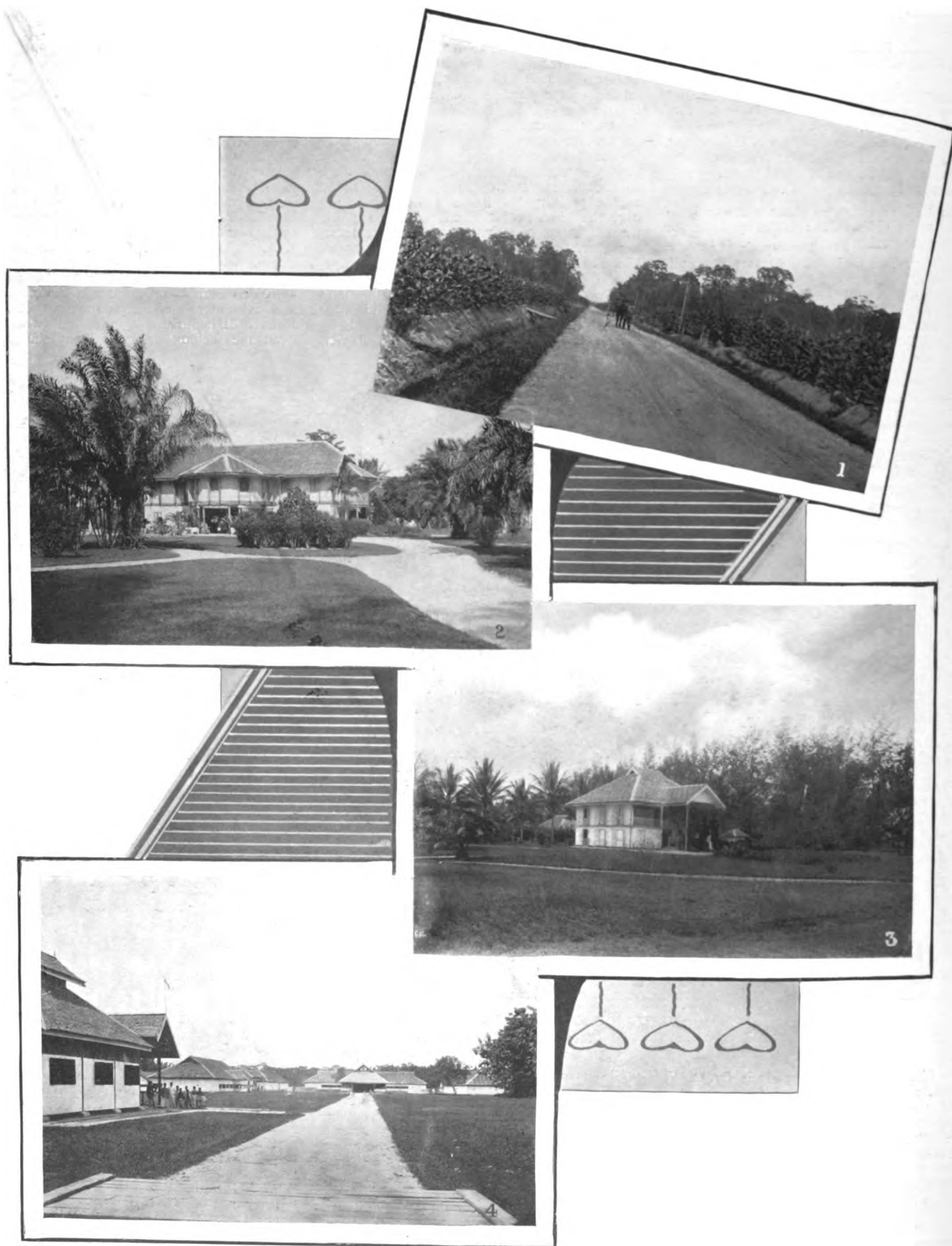
From the foundation of the Company until 1892 the directors held their meetings in Batavia; in 1892 the board was transferred to Amsterdam, and Tiedeman en van Kerchem were appointed the Company's agents in Netherlands India. The head offices of the Company have always been at Gedong Djohore.

the province of Padang, and on the Badja Linggi River. The trade mark for the tobacco of this estate is "R.D.M., P.B., Deli."

The Goenoeng Kataran Estate, about six and a half miles from the Tebing Tinggi railway Station is also on the Badja Linggi River. It is of the same size as the Pabatoe Estate, and the trade mark for the tobacco is very similar, being "R.D.M., P.B., Deli A." The estate is in charge of Mr. L. Baeker.

The Company also owns two other estates—so-called "contract lands," in the Padang Province—"Bahilang," with an area of 2,564 bouws, about half a mile from Tebing Tinggi, and the "Dolok Merawan."

The director of the Rotterdam-Deli Maatschappij is Mr. H. A. van Nieuvelt, jun., and



See page 399.]

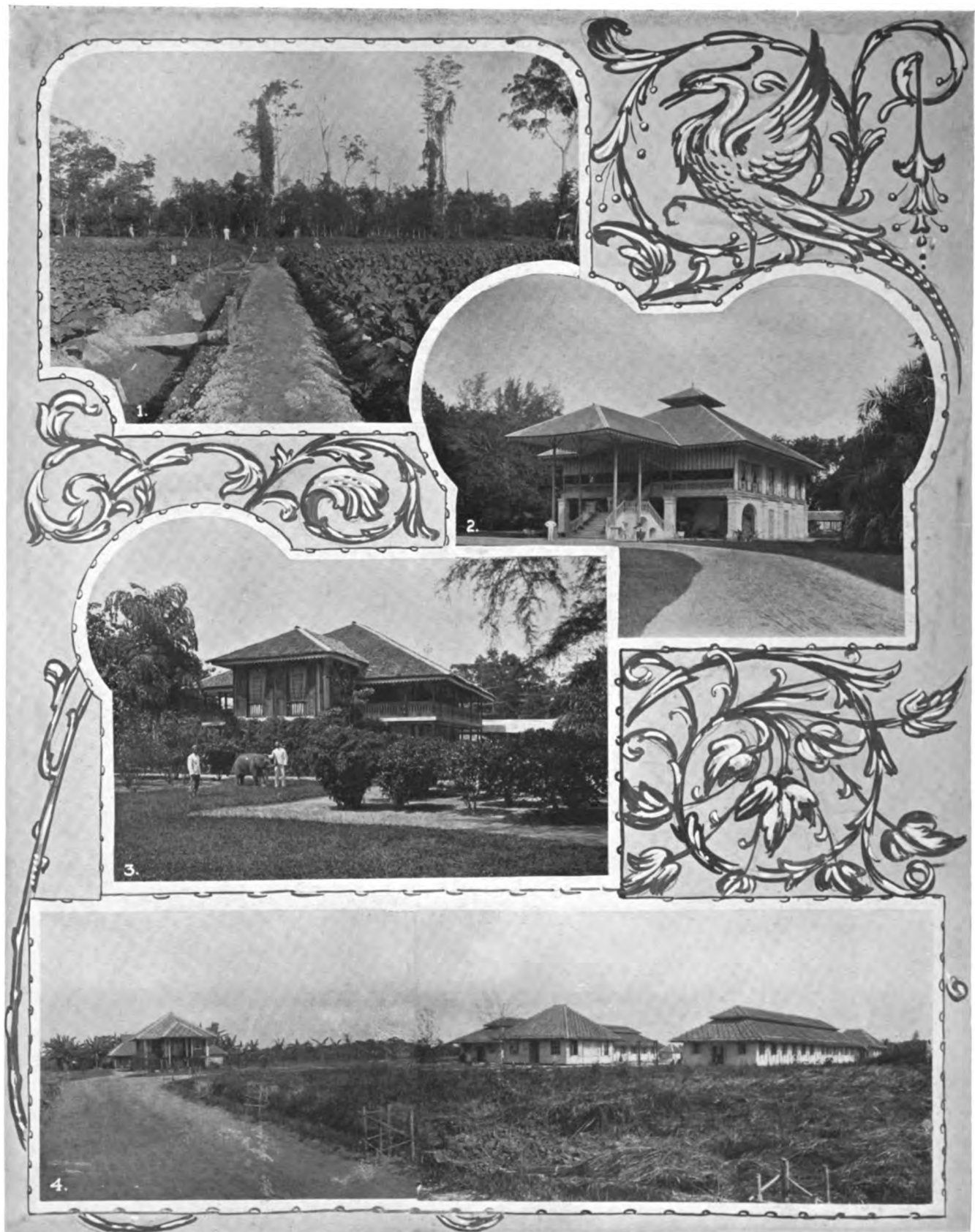
AMSTERDAM-SERDANG TOBACCO COMPANY, LIMITED.

1. ROAD THROUGH THE TOBACCO FIELDS.

2. HEAD ADMINISTRATOR'S RESIDENCE.

3. MANAGER'S RESIDENCE.

4. TOBACCO SHEDS.



SERDANG TOBACCO COMPANY.

1. IN THE TOBACCO FIELDS.
2. HEAD ADMINISTRATOR'S RESIDENCE.

3. MANAGER'S BUNGALOW ON ADOLINA ESTATE.
4. GENERAL VIEW OF THE ESTATES.

[See page 39.]

the members of the board include Mr. J. Henny, Messrs. M. Tromp, P. H. Gerritsen, A. Volker, W. I. Wisse, and H. C. Carsten. The head offices of the Company in Netherlands India are at Pabatoe, near Tebing Tinggi, Deli, and here Mr. P. H. Burger acts as the Company's representative; while Mr. W. Kooiman discharges the secretarial duties.

DELI-CULTUUR MAATSCHAPPIJ.

THIS Company, which has its head offices in Rotterdam, was founded in 1804, with a capital of Fl.2,400,000, in Fl.1,000 shares, under the directorship of the firm of P. van den Arend, of Rotterdam, the members of the committee being Messrs. G. Kolff, G. Bicker Caarten, and J. van Hoboken, A.Z.N. The general manager of the Company is

DELI-PADANG MAATSCHAPPIJ.

THE Deli Padang Company has been in existence for about ten years. It was established in 1890 with a capital of Fl.1,000,000, of which Fl.500,000 has been issued in shares of Fl.1,000 each. The Company's estate is situated at Bandar Bedjamboe. The head offices are in Rotterdam, No. 1, Haringvliet, the directors of the enterprise including Mr. G. van den Arend and D. Haagman, jun. (directors), and G. Kolff, W. F. H. van Peski and G. J. van Gendt ("commissarissen").

DELI-LANGKAT TABAK MAATSCHAPPIJ.

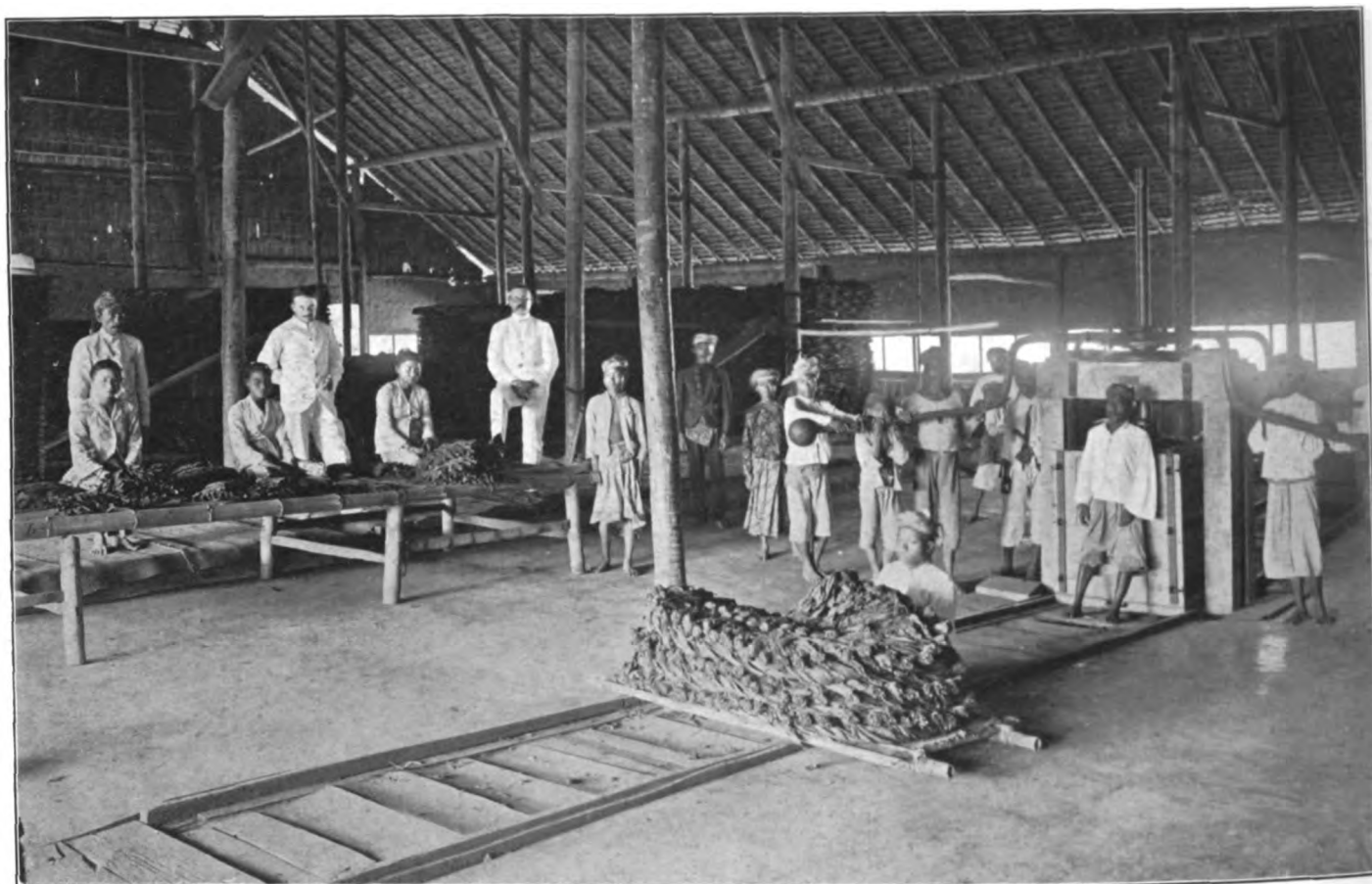
THE Deli-Langkat Tobacco Company was founded on December 13, 1886, at Amsterdam. The board comprises, at present, Messrs. J. K. Brands (director), W. T. F. van Leeuwen,

Bindjei, Langkat, Sumatra. Their chief product is tobacco, but recently rubber has been extensively planted and promises to be most successful. The general manager is Mr. Robert Maclean, who succeeded Mr. P. C. Hansen in May, 1909.

The Company's head office is at 2, Tokenhouse Buildings, London, E.C.

BINDJEI TOBACCO COMPANY.

THE Bindjei and Lau Boentoe Estates, situated in Langkat, on the East Coast of Sumatra, and covering areas of 3,000 and 8,000 bouws respectively, are both being vigorously exploited now by the Bindjei Tobacco Company—a company with a capital of Fl.3,500,000, divided into 3,500 shares of Fl.1,000 each, established in Amsterdam in January, 1907. Four hundred fields of



See page 402] PACKING AND SORTING ON THE "DJOHO" TOBACCO ESTATE, PASIRIAN, EAST JAVA.

Mr. J. J. C. de Knokke van der Meulen, and the procurator-holder, Mr. C. H. Burgersdyk.

The concessions owned by the Company were taken over from the firm of Oscar Eckels & Co., and cover an area of 21,704 bouws. They include: Mabar, Maryland, Soengei Merah, Sebrang, Saentis, Germania, Soengai, Soengei Krio Kiri, Tandjong Balei, and Soengei Si Moedjoer, the last-named, which is not yet cultivated, having an area of 4,389 bouws.

There are three estates on the other nine concessions. They all produce tobacco, and are under the management of Messrs. J. J. C. de Knokke van der Meulen, T. H. Muntinga, and J. F. Bouwens. In the absence of Mr. Bouwens on furlough his duties are carried out by Jonkheer J. P. van den Brandeler.

G. van den Berg, and C. Kufahl (Berlin). Messrs. Geo. Wehry & Co. act as the Company's representatives in Batavia, while Mr. W. J. A. Huyzer is entrusted with the management of the Company's estate, "St. Cyr."

The following figures show the number of packs of tobacco raised from the estate and the prices realised for the past five years:—

1905,	2,380	packs of tobacco at	1.44
1906,	2,207	" " " "	1.45
1907,	2,970	" " " "	1.71
1908,	2,504	" " " "	1.07
1909,	3,203	" " " "	

UNITED LANGKAT PLANTATIONS COMPANY, LTD.

THE United Langkat Plantations Company, Ltd., possesses six estates situated near

tobacco are planted every year, the product of the Bindjei Estate being shipped under the trade mark G. E. Langkat, while that from the Lau Boentoe Estate is distinguished by the sign L. B. Langkat.

The board of the Company comprises Messrs. H. M. Pantekoek (director), H. C. Soeters, C. F. de Ruyter de Wildt, J. H. Fock, jun., W. C. de Vlaming, and K. van Lennep. In Netherlands India the Company is represented by Mr. N. J. Hoorweg, the management offices being situated on the Bindjei Estate.

AMSTERDAM-LANGKAT COMPANY.

THE Amsterdam-Langkat Company was formed on July 22, 1904, by the amalgamation of the Langkat Cultuur Maatschappij

and the "Sakoeda," the "Namoe Djawie," and the "Soekaranda" tobacco companies. From the commencement the enterprise has proved exceedingly profitable, and as during the first years the directors, instead of declaring high dividends, adopted the policy of building up a strong reserve, the financial position of the Company at the present day is unassailable. The capital is Fl. 1,825,000, ordinary shares representing Fl. 825,000 and preferential shares accounting for the remainder. In four years the sum of Fl. 1,172,000, was written off for depreciation of leases, and on December 31, 1908, the reserve fund stood at Fl. 81,525. In 1907 12 per cent. was paid on preference shares and six per cent. on ordinary shares, and in 1908 18 per cent. on preference and 12 per cent. on ordinary shares.

The Company grows coffee and rubber in addition to tobacco. The estates under its control are :

SHANGHAI-SUMATRA TOBACCO COMPANY, LIMITED.

THE Shanghai-Sumatra Tobacco Company, Limited, of which Mr. H. Vogel is the manager, has extensive estates at Tandjong Bringin, near Tandjong Poera, in Langkat. The principal product is tobacco, but rubber also is now being planted over considerable areas. The Company was formed in 1884 and pays large dividends.

AMSTERDAM-SERDANG TOBACCO COMPANY, LIMITED.

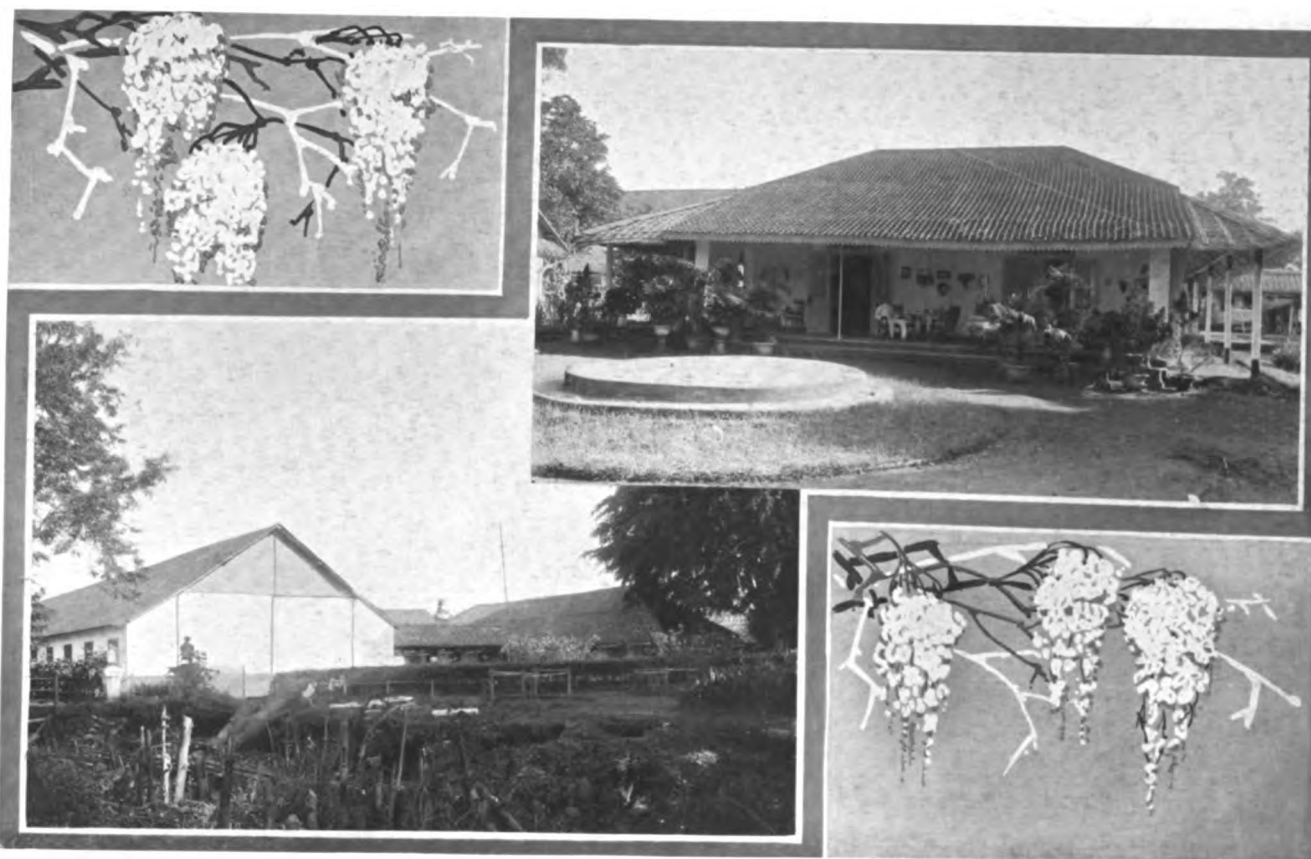
THIS Company, which was established in 1906, possesses two estates, Simpang-Ampat and Titian Oerat, and plants altogether 720 fields. The head administrator, Mr. Charles M. Mioulet, has charge of the Simpang-Ampat Estate, while Titian Oerat is under the management of Mr. J. J. Weber.

East Coast of Sumatra, are the property of the Serdang Tobacco Company. In 1904 they produced 4,066 bales of tobacco ; in 1905, 5,345 bales ; in 1906 5,058 ; in 1907 6,228, and in 1908 5,639. The value of the soil has been greatly increased by the construction of a large dyke along the Soengei Belai, and rubber is now planted in addition to the tobacco.

The general manager of the Company--Mr. G. R. C. Yeppe--has charge of the Frankfurt Estate, while the Adolina and Bengabing estates are under the direct supervision of Mr. D. H. Baron and Mr. C. G. Heykoop.

NEW DARVEL BAY TOBACCO PLANTATIONS, LIMITED.

MR. Th. H. C. Arensma entered the service of the Deli Maatschappij in April, 1887, but as the prospects of promotion seemed some-



KALI-PANTJING TOBACCO ESTATE, TJONDRO, EAST JAVA.

1. ADMINISTRATOR'S HOUSE.

2. PACKING AND SORTING HOUSE.

[See page 402.]

Bekioen (tobacco) ... Manager, Julius Schmidt
Soekaranda (tobacco) .. Aug. Le Lorrain
Tandjong Langkat .. R. Naegeli
(tobacco) (on leave).
A. A. Sypkens
(acting).
Tandjong Kleling .. H. von Gymnich
(coffee and rubber)

Mr. Julius Schmidt is also general manager for the Company in Sumatra, and supervises the work on all four estates.

The administration of the Company is directed by a board comprising Messrs. A. de Stoppelaar Blydesteyn (director), W. C. Vlaming, Fedor C. Bunge, and Jb. Bierens de Haan.

The capital of the Company is Fl. 1,500,000.

SUMATRA-CULTUUR MAATSCHAPPIJ.

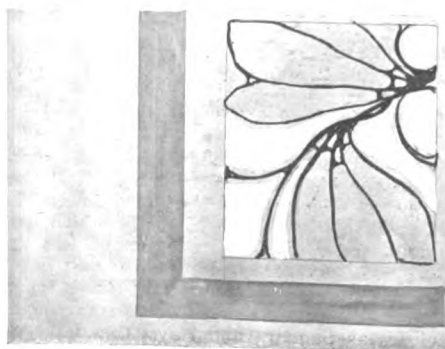
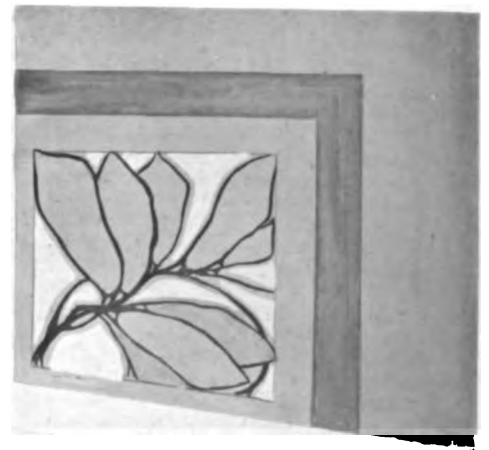
THE Sumatra-Cultuur Maatschappij has 630 fields of tobacco on its two large estates at Serdang. The paid-up capital of the Company is Fl. 600,000. Mr. G. W. Deenik is its head administrator.

SERDANG TABAK MAATSCHAPPIJ.

(Serdang Tobacco Company.)

THE Frankfurt, the Adolina, and the Bengabing Estates, in the Serdang division of the

what remote he left, three years later for British North Borneo. In that but little explored country he found an extensive field for his energies. In 1893 he became general manager of the New Darvel Bay Tobacco Plantations, Limited, which company, under his able management, has been distinctly successful. Indeed, owing largely to his enterprise, "Darvel Bay" have become as widely known among smokers of good cigars as Sumatra and Havana, and there is now, perhaps no more popular cigar on the British market. As Mr. Arensma obtained his first experience as a planter in Deli, his photograph is very properly given a place in these pages.



CULTUUR MAATSCHAPPIJ WEDI-BIRIT.

1. HEAD MANAGER'S HOUSE, WEDI-BIRIT.
2. DRYING AND PACKING HOUSES, DIWO.

3. PUMP STATION, DIWO.
4. TOBACCO EXPERIMENTAL STATION, WEDI-BIRIT.



DJARIT TOBACCO ESTATE, PASOEROEAN, EAST JAVA.

1. HOUSE OF THE ADMINISTRATOR.

2. PACKING AND DRYING HOUSE.

CC

JAVA ESTATES.

CULTUUR MAATSCHAPPIJ "WEDI-BIRIT."

THIS Company was founded on July 8, 1887, for the purpose of working the agricultural estate "Wedi-Birit." Its head office is at The Hague, and its capital Fl. 360,000. The first year 374 bouws of land were cultivated by the Company, 175 bouws being planted with tobacco and 109 with indigo, from which 206,935 units (half-kilogrammes) of tobacco and 24,137 lb. (Amsterdam) of indigo were obtained. In 1905 the Company purchased the estate of Djiwo.

The Wedi-Birit Estate is situated at the foot of Mount Merapi, in the residency of Soerakarta, in the division and regency of Klaten, 2½ miles east-south-east of the Srowot railway station. It is 1,655 bouws in extent.

bouws were placed under cultivation. As is the case now upon the Wedi-Birit Estate, tobacco is the only produce raised. It is exported under the following trade marks:—Djiwo/V for the under-leaf; Djiwo/M for the middle-leaf, and Djiwo/T for the top-leaf.

The head administrator of both estates is Mr. W. A. Terwogt, while Mr. W. L. Buurman van Vreeden is the manager of "Wedi-Birit," and Mr. D. de Graaf of "Djiwo."

Jonkheer H. C. van der Wyck is the Company's representative in Netherlands India, and the members of the board are Jonkheer K. L. van der Wyck (director), Messrs. C. T. F. Thirkow, M. Paul Voute, and R. F. H. Mosselmans.

quantity of green leaf, which, in addition to the tobacco actually grown on the plantations belonging to the firm, is dried, sorted, pressed, packed, and shipped to the European markets. At the beginning of the planting season the Company advance sums of money to the native planters to tide them over the time intervening between planting and plucking, and as some five thousand native growers bring in their produce to the firm, it can readily be seen that a considerable quantity of the tobacco grown in that district comes into their hands. The average annual crops dealt with amount to over 2,000,000 lb.

On the various estates belonging to the Company there are 36 drying barns, with an average annual capacity of 17,500 lb., as well as ten sorting and packing rooms, fitted



VIEWS ON BIRNIE'S TOBACCO ESTATE, DJEMBER, EAST JAVA.

1. DRYING HOUSE.

2. PACKING ROOM.

3. OFFICE.

In 1908 the area under cultivation was 500 bouws, which yielded 1,358,048 units of tobacco; in 1909 21 additional bouws were planted. The produce of this estate is placed on the market under three trade marks, viz., "Tomy" for the under-leaf (voetblad); "Krian" for the middle-leaf (middenblad); and "K. T." for the top-leaf (topblad).

The Djiwo Estate, which covers an area of about 1,000 bouws, is also situated at the foot of the Merapi, in the residency of Soerakarta, in the division and regency of Klaten, 7½ miles south of Klaten railway station. The cultivated area in 1908 was 250 bouws, which returned 571,664 units of tobacco, and in the following year 335

TABAKS-ONDERNEMING "DJOH."

THE primary efforts in tobacco cultivation on the estate from which this firm take their name were made at the instigation of Mr. Willem Amesz in 1896. The estate was then only three bouws in extent, but success attending the enterprise, it has been extended now to ten bouws, and some ten additional establishments, all in the Loemadjang District, have been added. The Company work with the full permission of the native landowners of the district—without which, in any venture of this nature, failure would be certain—and purchase from the native growers themselves a very considerable

with modern appliances for the proper handling of tobacco. The trade marks under which the tobacco is shipped include "Djoho," "Bades," "Bagoe," "Soemberkadi," "Boelah-Winong," "Sarwodadi," "Karang-Anom" and "Kebon-Deli."

Messrs. Smidt & Amesz are the proprietors of the firm, while the administrator is Mr. A. Noordhoek Hegt, who has been associated with the undertaking during the whole of the twelve years he has been in Java.

TABAKS-ONDERNEMING "KALI-PANTJING."

THIS tobacco estate was opened up about 1877 by a Mr. Sterkenborg. Some few years

later it was purchased by the present owners, Messrs. Klomp & Co., of Sourabaya and Amsterdam, and under their direction it has been extended and improved very considerably. New and up-to-date buildings, for the most part constructed solidly of stone, have been erected, and there are now ten drying barns and three sorting and packing houses where the crops are prepared for the market. The tobacco from the estate finds a ready sale in Europe, the average annual export of leaf reaching some 1,500,000 lb.

The administrator of the estate, Mr. H. W. Reinking, was born in Java and educated in Holland. He was appointed to his present position in 1907.

TABAKS-ONDERNEMING "DJARIT."

THE "Djarit" Tobacco Company, which was founded in 1862 by Mr. J. B. E. Versteeg,

a pensioned officer of the Netherlands Indian Army, takes its name from the Djarit Estate, which is situated in the Loemadjong division, in the residency of Pasoeroean. The venture was not very successful in its early days owing to lack of a proper knowledge of tobacco culture and to a scarcity of labour, but benefiting by the experience gained during the first few years of difficulty, and by changing the seed hitherto grown, the Company was gradually able to work the estate profitably, and when, in 1869, tobacco fetched high prices in the European markets, the plantation was extended by the addition of more establishments.

In 1876 Mr. J. J. van Leeuwen became a partner in the undertaking and took over the reins of management. Previously to 1888 there were nine establishments, but by a process of centralisation the number

has now been reduced to two. Altogether the Company owns eighteen bouws of land, as well as nine drying barns, and one of the most up-to-date sorting and packing godowns, in which is installed the latest type of press. The leaf is exported under the trade mark D.T., and always finds a ready sale in Europe.

The business passed into the hands of Mr. A. G. V. van Leeuwen in 1896, and under his guidance has made considerable progress. The following figures show the amount of produce harvested during the last five years:—

1904	200,000 units (1 lb. Amsterdam).
1905	300,000 "
1906	420,000 "
1907	300,000 "
1908	200,000 " (a consequence of a failure of the crop).





LIBERIA COFFEE ESTATES, IN THE LOWLANDS, EAST SUMATRA.

COFFEE.

HISTORY, CULTIVATION, TRADE, AND POSSIBILITIES FOR THE FUTURE.

BY R. A. EEKHOUT, Honorary Secretary of the Soekaboemi Agricultural Association, 1888-1891;
Corresponding Member of the Société de Géographie de Genève, Switzerland; and Director,
Wynkoopsbaai Exploratie Maatschappij.

HISTORY.

UNDER the rule of the Chartered Netherlands East India Company, 1602-1800, coffee was introduced into Java in 1606. The first coffee plants, brought from Kaffa to Malabar, were transplanted on the estate "Kedawoeng," near Batavia, the property of Governor-General William van Outshoorn (1691-1704), but unhappily they were all lost by floods. At the commencement of the eighteenth century, however, when Governor-General John van Hoorn was in power (1704-1709), the efforts of the coffee planters were more successful, and in 1706 the Netherlands East India Government was in a position to send to the Board of Directors of the Chartered Netherlands East India Company, in Holland, the first coffee grown in the neighbourhood of Batavia, together with one young coffee plant. To this little plant, cultivated and multiplied with the utmost care in the Botanical Gardens of Amsterdam, the West Indies and South America owe the wealth they have since obtained through the production of coffee.

The first consignment of coffee, transported from Java to Holland, in 1711, during the administration of Governor-General Abraham van Riebeeck, weighed 983 lb. (894 half kilos), and was sold by public auction at the price of 21½ pence per lb. The Board of Directors of the Chartered Netherlands East India Company were so satisfied with this extremely encouraging result that they issued orders to their Government in Netherlands East India to pursue the cultivation

of the plant vigorously. In order to enable them the more easily to carry out these instructions, the Government concluded conventions with the still rather independent native regents in the interior for the delivery of coffee under certain stipulated conditions. These were the contracts which were the cause of all subsequent difficulties in the coffee policy of Netherlands East India. In their very form they recognised and admitted the principle of forced cultivation. The Company did not interfere with the cultivation of the plant. The regents had to take care that their subordinates grew coffee, kept the gardens clean and in good order, and delivered the produce in a good state. In the Preanger Province, for instance, the native regents received the order, in their contracted liabilities, that every native family had to nurse, plant and keep three hundred coffee trees. This number was increased afterwards to one thousand per family, while in 1729 a Government resolution was passed ordering every family to plant "ten trees more." Nor was the money in payment for the crops delivered handed directly by the Government to the actual cultivators, but to the native regents personally, who sometimes paid and sometimes forgot to pay their dependents. In this connection, however, it is only right to point out that happily there were some authorities who acknowledged, through their measures, the evils of the system. The Governor of East Java, for instance, ordered that the coffee crop grown within the area of his jurisdiction should be delivered by the native planters to the Government, from whom they were to receive their payment direct.

In the early conduct of this great trade the Chartered Company alternately encouraged and checked the cultivation of coffee, being stimulated on the one hand by the prospects of high profits, and depressed upon the other by fear of smuggling or superabundance of crops. As a consequence of this policy the cultivation of coffee was developed wonderfully during the first few years. Then, however, came the reaction, and the work of limiting the crop commenced. The prices of £1 17s. 6d. to £1 18s. per picul of different weights (138 to 275 lb.), which had been paid originally for the coffee in order that its cultivation might be encouraged, were reduced, in 1729, to £1 5s. and £1 1s. per picul, a payment which was utterly insufficient for the work done by the native planters. The quantity for export to Holland was also fixed, and it was not till the end of the eighteenth century that the system of regulating the trade by artificial means came to an end. It had to be abolished then because of the cultivation of coffee on a large scale in the still independent Sultanates of Central Java—actually, Soerakarta and Djocjakarta. During the whole time of their existence, extending over a period of 198 years, from 1602-1800, the Chartered Mercantile Sovereign Company held, according to their charter, a most rigid trading monopoly. All produce and trade belonged to them exclusively, and the strict adherence to their rights not only gave rise to a fraudulent traffic, known as "mess commerce," among their own servants, who, when discovered, often suffered the penalty of death, but led ultimately, through warfare, to the decline of the power and consideration of Holland in Europe.

In reviewing the administration of the Chartered Company it can be readily understood that the unfavourable state of affairs, which at the end of the eighteenth century led the Home Government of Holland to take over all their debts and possessions, originated exclusively from the evils attaching to the monopoly of trade and authority which they had enjoyed for so long. Their desires as merchants and traders were too great to allow them to discharge, satisfactorily and with discretion, their responsibilities as sovereign lords of an extensive territory. Always, from the very beginning, commercial interests formed the foundation of all acts of this Company, and after all, perhaps, it was perfectly natural that this should be so, for the Chartered Netherlands East India Company were in the first place, and above all, "merchants." So much must be allowed in any reasonable judgment, but now, after so long a lapse of time, it is easily seen how great a mistake was such a purely commercial policy. While the representatives of this Chartered Company in the Orient did not hesitate to make use of the sovereign rights bestowed upon them by their charter, the members of their Boards of Directors, with a few laudable exceptions, always put to themselves first the question what immediate profits were to be expected from such and such action of their agents in East India. Such was the discouraging, short-sighted policy of the merchant princes of Amsterdam, even in the heyday of the Company's prosperity, when under the direction of Governors-General such as Coen, Van Diemen, Maatsuyker, their representatives were labouring so loyally for the foundation of a Dutch Empire in the East. "Cent. per cent. was their faith; gold was their object, mammon was their god." So long as the Netherlands East India Company had to strive after what Van Diemen called once "the domination of the Orient," their monopoly never proved prejudicial to the best interests of the country. Such rights only became disastrous to the Netherlands Indies when the Dutch possessed or believed themselves to possess them as secure and certain, and considered it unnecessary to continue their efforts to maintain them. The monopoly then began to sap the energy and vitality from the heart of the Company's organisation, and eventually destroyed all enterprise and initiative. The unsound policy of the Company of using its power to obtain as large a profit with as little expenditure as possible brought about its own reward. Eventually the Government of Holland was compelled to put herself in the Company's place, to take over their responsibilities, and to carry on the work which had been so well begun and later so grievously mismanaged upon sounder principles. Under the immediate sovereignty of the Netherlands, beginning at the time when Governor-General Marshal Daendels came into power, in 1808, the cultivation of coffee in Java and throughout Netherlands East India received a tremendous impetus.

PERIOD OF TRANSITION, 1800-92.—Upon arriving in Java Daendels found Netherlands East India in a desperate state—England threatening from every side because of the Dutch alliance with France, and trade and revenue nearly exhausted. To check the last evil to some degree Daendels was compelled to sell large tracts of land in Java to private persons. At the same time, as a means of strengthening the revenue, he vigorously supported the system of forcing the natives to cultivate certain quantities of coffee. What was never witnessed before became a fact

under the rule of this "thundering marshal," as he was called by the native population; within the three years of his term of office the cultivation of coffee by order of the Government was extended by the natives throughout Java with no less than forty-five millions of coffee-trees. At the same time he established a general organisation for coffee cultivation, based upon the principles of the Preanger system of contracted liabilities. Daendels, however, did not remain long enough in office to witness the results of his measures, for Netherlands East India now passed into the possession of Great Britain, and Sir Thomas Stamford Raffles was nominated as the Lieutenant Governor-General (1811-16).

One of the first acts of Raffles was to declare the entire cultivation of coffee in Java free, with the exception of the Preanger province, where the system of contracted liabilities remained still unaltered. In order to assist the natives to sell their coffee crop, in the absence of a sufficient number of private merchants, Raffles also decreed that the free coffee might still be sold to the Government and delivered to her stores.

The Government lowered those prices and prohibited the establishment of private stores in the interior, through which last measure the sale of coffee by the natives to private merchants was handicapped, the aversion of the native population to renewing their leases could, in 1823, be overcome only by the direct order of the Government, so that the cultivation of coffee remained free in name only. In 1829 the objections of the natives to the cultivation of coffee upon the above-mentioned terms were carefully examined by a member of the Council of Netherlands East India, Peter Merkus, afterwards Governor-General of Netherlands East India (1841-44). He arrived at the conclusion that the native population objected not so much to being forced to cultivate the coffee as to being paid insufficiently for their labour. And so it is. Wherever we look, from the very beginning till the end of the interference of the Government with the native cultivation of coffee, we recognise always that—

In matters of commerce, the fault of the Dutch

Is in offering too little and asking too much.



COFFEE ESTATE, EAST JAVA: SEMÉROE IN BACKGROUND.

During the British occupation, too, it was proposed for the first time to lease the Government coffee gardens for a period of three years.

After the restoration of the East India Archipelago to Holland this system was largely extended. The existing gardens were leased to the native villages (*desahs*), at prices varying from one-third to one-half of the crop, payable either in money or in coffee. The residue of the crop remained at the disposition of the cultivators, but when it was so desired this might also be sold to the Government. Moreover, the natives could obtain advances from the Government Treasury when required to assist them in their work. In those regions where the natives objected to the renewal of the leases, the Government would become directly responsible for the gardens. All these measures worked favourably for the extension of coffee cultivation so long as the prices remained sufficiently high, but so soon as

The thorough investigations of Merkus and his propositions with regard to the cultivation of coffee attracted the entire attention of the new Governor-General, John Count van den Bosch (1830-33), and it was after careful consultation between these two eminent officials that the Government of Netherlands East India issued, on August 8, 1832, a decree stating that the crops of all the coffee trees which were not cultivated on behalf of the Government, but which were subject to the payment of the land tax, with the exception of those from private estates, had to be delivered and sold to the Government, the Government on their part agreeing to pay for them the real market price after two-fifths value for the land-tax and the cost of transport and freight to Holland had been deducted. It was decided that the market price should be fixed every year by the Netherlands Trading Company (*Nederlandsche Handel Maatschappij*). The first price paid was £2 15, 8d. (G. 25 Dutch

currency), copper, through which the native populations received a net payment of 16s. 8d. (G. 10 Dutch currency), per picul of 138 lb. (125 half kilos). It was through the instrumentality of this decree that the Netherlands East India Government monopoly of coffee, with forced delivery, was at length established.

It was under the administration of Governor-General Sloet van de Beele (1861-66), and with the co-operation of the then Secretary of State for the Colonies in Holland, Isaac Dignus Fransen van de Putte, that all forced Government cultivations, with the exception of sugar and coffee, were abolished. A good deal of the ground then left by the Government was either taken up again by the natives themselves on their own account, or leased by the Government to European planters. In 1870 the Secretary of State for the Colonies in Holland, Angelbertus de Waal, succeeded in passing his Agrarian Bill. After a battle of forty years the principles advocated by Du Bus de Gisignies had conquered, and it was due in no small degree to the extraordinary development of

forced cultivation of coffee in Netherlands India. This was followed a little later by another motion declaring that Parliament considered it desirable that the forced Government monopoly of coffee be abolished in the province of Minahassa, North Celebes. As the result of these direct expressions of opinion the system was swept away entirely in the Celebes, and the whole island was incorporated under the Netherlands East India Customs jurisdiction. The old methods of forced cultivation were abandoned, too, in 1908, in the provinces of the West Coast of Sumatra, where direct contributions of money had been introduced instead, so that now the system remains only in a few, but nevertheless extensive, areas of Java. In January, 1905, what remained of the Government coffee cultivation was placed under the direction of the newly established Department of Agriculture, the organisation of which is under the able management of Professor Melchior Treub. The forced Government cultivation of coffee in Java still employs many people, but the appended

of coffee plant, since known as *Coffea liberica*, was introduced from Liberia, West Africa. These plants in the lower regions, from the level of the sea up to one thousand five hundred feet, have altogether replaced the *Coffea arabica*. Clay grounds are not adapted for the cultivation of coffee, neither are the exclusively sand grounds; but the mixed, not too soft, nor too firm, dark-coloured grounds rich with humus, are the most suitable. It is not always necessary to discard stony regions, because the occurrence of stones, and through them the natural draining of the soil, often assures a successful plantation. The existing vegetation of the soil may serve as a proof whether the grounds are suited for coffee. The soil offers small prospect for a flourishing plantation of coffee trees when the vegetation is barren and frail, or when it is composed only of native grass or "alang-alang." The occurrence of wild sugar-cane ("glagah") and other varieties of cane such as "tepoes" and shrubs, promises altogether better results. Generally speaking, virgin forest soils are the best; but even to this rule there are exceptions, for a high forest does not always prove with certainty the occurrence of a deep and rich planting soil. For preference, gentle mountain slopes or wide valleys are chosen for coffee cultivation. Steep slopes are unsuitable, even when provided with terraces, because the coffee trees suffer too much from the loss of soil which is washed down in the rainy season. Happily Netherlands East India still possesses, in her four big and her numerous smaller islands, extensive areas of splendid virgin soil well adapted for coffee, and under the rule of a far-seeing and enlightened Government there is no reason to doubt an incalculable development in the trade of the future.

The clearing of jungle country for planting coffee trees is carried out in various ways most suited to the existing local conditions. In high-grown forest country the wood, except for a few rows of trees on the side of the prevailing winds to protect the gardens from heavy gales, is entirely cut down by some planters, who at the same time carefully avoid the destruction of stumps and branches by fire, for fear of burning the humus too; other planters burn the wood as much as possible, and afterwards mix the ashes with the soil, so obtaining, in their opinion, valuable manure. Again, other planters leave the forest nearly entirely untouched, and cut the wood only so far as is necessary to ensure a moderate shadow for the coffee trees. Shrubs are entirely uprooted, for if left in the ground they would seriously interfere with the growth of the young coffee plants. Grass-shrubs like "alang-alang" may never be spared; they ought to be uprooted and burned. When the grounds are cleared from weeds and shrubs and from all or most of the encumbering trees, they are worked with the "patjol," and sometimes with the plough. On mountain slopes terraces are constructed always when the soil is of such a nature that repeated and deep labour is considered necessary, for fear of a large development of "alang-alang" or other troublesome weeds. Generally, they are not made larger than will be sufficient for one row of coffee trees. The terraces being completed, the grounds are ready for planting, unless the planter is dissatisfied with a single working of the soil and prefers to plant the young coffee trees in plant holes. In that case holes about two feet wide and deep are dug some months before the beginning of the planting. They remain open about two months, when they are refilled with fine



ROBUSTA COFFEE TREES (2 YEARS OLD), INTERPLANTED WITH PARA-RUBBER. EAST JAVA.

the big private agricultural estates in Java that the forced Government cultivation of sugar was entirely abolished in 1891, leaving only in existence the forced Government cultivation of coffee. The forced cultivation of coffee by the Government was abolished in the greater part of Celebes in 1870, being left in force only in the province of Minahassa. In Sumatra coffee-growing, with the exception of the province of Bencoolen, had been left entirely free, and at the commencement of the nineteenth century coffee had become a rather important article of export from the provinces of the West Coast, through the port of Padang. In 1872 the system was entirely abolished in Bencoolen, but five years later it was introduced into other parts of Sumatra. At the end of 1891, however, it may be said that the free growing of coffee throughout Netherlands East India had by far surpassed the still existing but gradually diminishing forced Government cultivation. In 1892 a resolution was passed in the home Parliament condemning in principle the

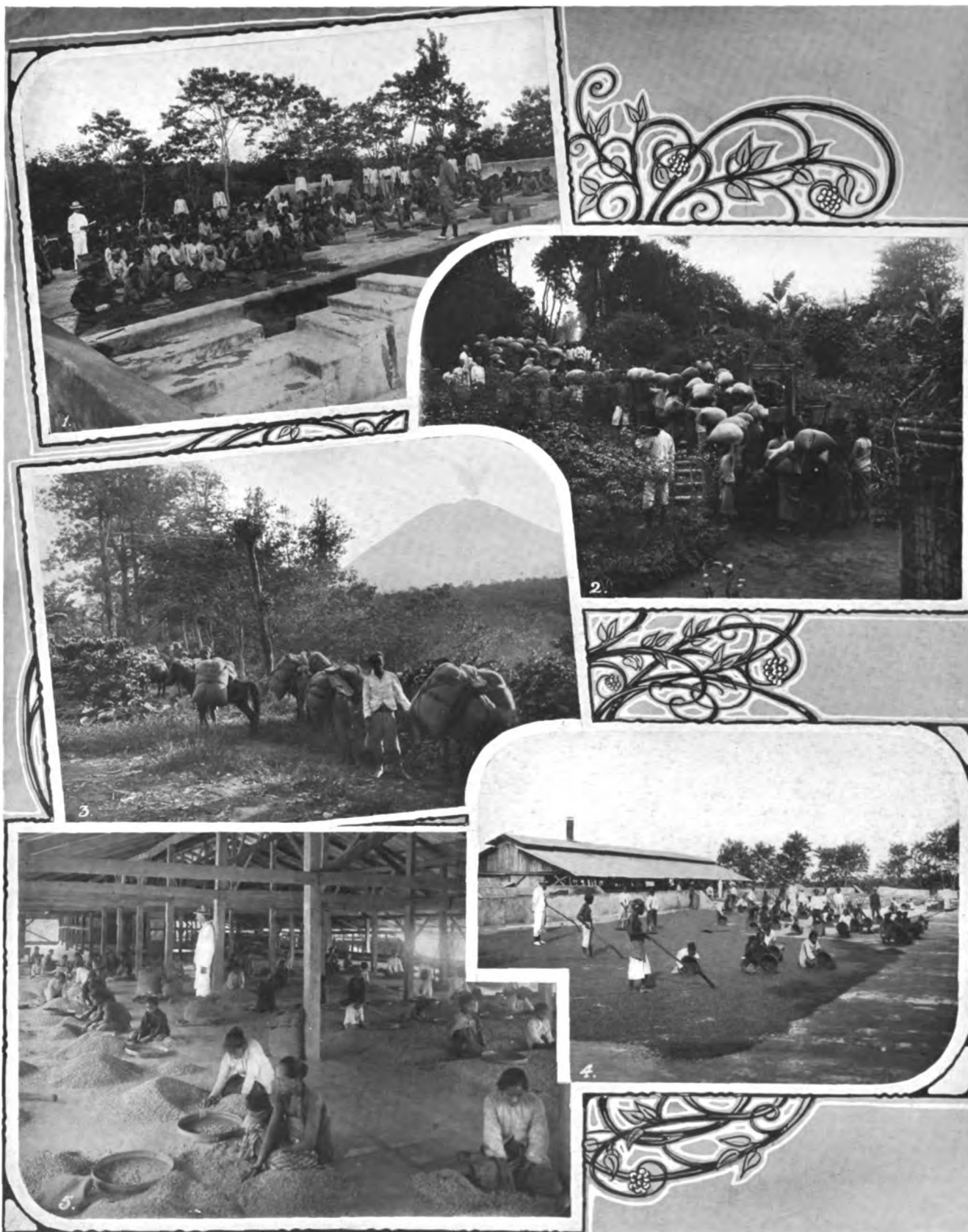
figures show how steadily the revenue from this source is declining:—

Year.	£	Guilders (Dutch currency).	
1903	698,789	(8,385,589)	real result.
1904	682,907	(8,194,881)	" "
1905	631,684	(7,580,210)	" "
1906	319,055	(3,828,663)	" "
1907	489,747	(5,876,964)	preliminary result.
1908	285,541	(3,426,493)	estimated "
1909	243,464	(2,921,564)	" "

The entire crop from this source in Java is estimated for 1909 at a total of 82,150 piculs (of 62½ kilogrammes).

CULTIVATION.

SOILS ADAPTED FOR COFFEE. — *Coffea arabica* was practically the only variety cultivated in Netherlands India until 1875. The trees grow on every height to four thousand feet, but thrive best upon levels of from one thousand five hundred to three thousand feet. In 1875 a new strong species



1. INSPECTING DAY'S CROP BEFORE STORING.
2. DAY'S CROP BEING TAKEN TO FACTORY.

3. TRANSPORT TO RAILWAY STATION.
4. SPREADING WASHED BEANS ON DRYING FLOOR.
5. SELECTING BEANS FOR EXPORT AS HUSK COFFEE.

humus, sometimes mixed with manure. In order to prevent the coffee plant beginning to languish so soon as its roots touch the firmer walls of the plant-hole, these walls are always previously broken and loosened by the "patjol."

TREES FOR SHADE.—Except on altitudes above three thousand feet the coffee trees want shade in order to develop abundantly. In Netherlands East India the *Erithrina hyphorus*, or "dadap" tree, the *Albizia moluccana*, or "djeungdjing" tree, and the *Albizia stipulata*, or "sengon-alas" tree, are generally used for this purpose. These shady trees are planted in the coffee gardens, in some cases, only a few weeks before the coffee planting. In most cases, however, such trees are put into the ground one, two, or even three years in advance in order principally that they may check as far as possible coffee leaf disease or coffee blight, to which, in the opinion of many planters, the young coffee plants are less susceptible when grown under abundant shade. The "dadap" tree is propagated by cuttings of about two and a half feet long, which are planted obliquely at distances which differ according to the higher or lower altitude of the ground, and the spaces between

1½ feet in height they are transplanted in the coffee gardens at distances of 24 feet by 24 feet or 30 feet by 30 feet, according to whether the altitude is more or less than three thousand feet. Other varieties, such as *Melia* or "mindj," and *Eriodendron* or "kapok," are cultivated as shade-trees; and in order to protect the coffee gardens from the heavy winds, very often so-called "wind-breakers" are planted, the *Cassia* or "djoeur," *Sponia* or "anggroeng," and *Hibiscus* or "waroe" trees being principally used for this purpose.

PLANTING.—In most cases the coffee plant is grown from seed in the nurseries. The ripe coffee berry from vigorous trees, neither too old nor too young, and free from disease, is cleansed from its pulpy envelope and the kernel washed with ashwater in order to remove entirely the slimy mass which surrounds it. Then there remain two beans, each bean in its so-called horn-cod, which are dried in the shade. The beans are laid under the surface of the earth, at a distance of 6 inches from each other, in nurseries prepared beforehand under shade. The periods necessary for the development of the beans may differ from one to four months on heights

well-shaded and well-sheltered spots in existing coffee gardens where the coffee seed is sown. Within six weeks the young plants are generally ready to be transplanted to the nurseries.

MAINTENANCE OF COFFEE GARDENS.—When the transplanting is finished, attention then has to be directed towards the keeping of the gardens in good order. The suckers on the stems of the young coffee trees must continually be cut away, whilst the shade-trees ought to be pruned underneath. During the first two years after the planting of coffee, dead and unhealthy coffee plants and shade-trees are regularly renewed by fresh ones. At the present day, the system of topping the coffee trees has been practised on many private coffee estates, in order that better care may be taken of them and more fruit brought within reach of the pluckers. The young shoots are continually taken away with thumb and finger or cut with a sharp knife when the tree has attained a height of 5 feet to 6 feet, so that the trees are obliged to extend themselves in width. This topping is not necessary to the growth, for coffee trees of from forty to sixty years of age are in existence which have never been topped, and their height is perhaps between 20 feet to 30 feet; they are exceedingly difficult to pluck and ladders have to be used, or the branches are bent down with hooks and as a result much damage is done to the trees. It is in the exclusive interests of plucking that the trees are topped. For the rest, the coffee trees are kept in good order by the ordinary pruning methods. Pruning, in the last resort, consists in the entire cutting of old-aged coffee trees, leaving only their stumps, which commonly produce fresh shoots. Manuring is effected on barren soil or with tardy trees by animal manure from the stable, or by green manuring, viz., the fresh-cut weeds. A trench is dug around the roots of the trees into which the manure is thrown. A very good manuring is effected with the residue of indigo factories, called "titen," or with the fresh indigo plants themselves. Only during the last few years has artificial manure been used in a rational way in the private coffee gardens, but a great improvement is now being effected in this department of cultivation by the researches of the coffee experiment stations and by the assistance of the Government Department of Agriculture.

The methods of cultivation described above are those which are practised by the Netherlands East India Government and by the owners of the private coffee estates. Only in very rare instances are such methods followed by the native population. The construction of nurseries, terraces, and plant-holes; the deep working of the soil; the regular maintenance of the plantations and the planting of shadow trees; the setting out of the plants at regular intervals; and manuring, are all forms of labour ordinarily neglected by them. They frequently take "upshoots" from the Government and plant them as a fence in their own gardens. The care they bestow upon their own coffee trees limits itself to cleaning out the weeds once a year.

EXTENT OF COFFEE CULTIVATION.—In the absence of a perfectly organised central statistical office, it is very difficult indeed to make even an approximate estimate of the total area of ground planted with coffee throughout Netherlands East India. If the ordinary yearly crop per acre was taken as a basis for such a calculation, the result would be rather imaginary, because well-managed private coffee estates produce



GATHERING COFFEE IN EAST SUMATRA.

the coffee plants themselves. When planting coffees at distances of 6 feet by 6 feet "dadap" is planted between them at distances of 12 feet by 12 feet for grounds below three thousand feet, and 18 feet by 12 feet for higher altitudes; when planting the coffee tree 6 feet by 10 feet, "dadap" cuttings are planted between them 12 feet by 20 feet below three thousand feet, and 18 feet by 20 feet above that altitude. Originally "dadap" trees were almost exclusively used, but they have their disadvantages because they will not grow in every kind of soil, and they lose their leaves in the dry season, when shade is wanted most. Now, the *Albizia moluccana* is grown very extensively, being a tree which develops quickly in every soil, and gives, with its fine, small, incessantly renewing leaves a continual moderate shade. However, the *Albizia* also is not without its drawbacks. The wood is very soft, and the branches break easily, often crushing many coffee trees in their fall. The *Albizia* tree is propagated by seed, which is placed in warm water one night before sowing in the nursery. When the plants are 1 foot to

of between a thousand and four thousand feet altitude. When the time for planting commences at the beginning of the rainy season, and young coffee plants are transplanted to the ready-made terraces, great care should be taken not to damage their roots. The distances between the coffee plants are ordinarily 6 feet by 6 feet when estimating a lifetime of not more than ten years; 8 feet by 8 feet for a lifetime of ten to fifteen years; and 6 feet by 10 feet for more than fifteen years. The general method of planting is that of the so-called cross-bar system. The young coffee plants are not always obtained by means of seeds in nurseries. Very often, out of the existing coffee gardens, what are called "upshoots" ("konkoak") are used, which are simply young coffee plants that have grown up unattended out of ripe berries which have fallen from the trees. These "upshoots" are ordinarily topped when transplanted, in order that only the strongest of the new shoots may be left. In some cases, also, planters prefer to have next to their nurseries so-called germinating beds, which are nothing else than

regularly from 5 to 7 piculs (of 61.76 kilos) marketable coffee per acre per year, whilst for many parts of Netherlands East India 3 piculs per acre could be accepted as an average. Taking this latter figure, and applying it to the total private coffee crop of Java, Sumatra, and Celebes for 1895-96, viz., 777,500 piculs (Java 672,000, West Coast of Sumatra 59,000, and Celebes 46,500 piculs), then it would seem that the area cultivated with private coffee was about 260,000 acres. But coffee is grown also in Dutch Borneo and in many of the smaller islands of the archipelago, so that it would be safe to say that in those years coffee was being cultivated by private enterprise over an area of 300,000 acres, bearing at least 300,000,000 trees. In 1895 the total production of Government coffee in Java amounted to 319,955 piculs, derived from 255,000 acres of Government coffee gardens, planted with 240 millions of coffee trees. From these official statistics, it will be seen that the forced Government cultivation of coffee in Java yielded, in 1895, only 1½ piculs of coffee per acre, a result which would mean financial ruin to any privately owned estate. The average yield of three piculs to the acre applied to the private coffee crop of Netherlands India for 1907-8 shows there has been a great diminution in the area under cultivation since 1895-96. This may be due in some measure to coffee estates having been turned into tea and rubber estates, but the heavy losses occasioned by coffee blight must also be borne in mind. This disease has considerably diminished the crops of late years, and has not been without its influence on the crop for 1909. At the present day there are only a few private estates in East Java devoted exclusively to the cultivation of coffee. All other private estates throughout the island which still produce coffee have combined its cultivation with that of tea, rubber, cinchona, pepper, coconuts, cacao, or other produce. In 1909 there were, throughout Java, 296 private estates cultivating coffee only or coffee combined with other products, of which 62 are situated in West Java, 64 in Central Java, and 170 in East Java, as is shown in the following summary:—

WEST JAVA—			
Province of Bantam ...	...	5	
Province of Batavia :			
Division of Buitenzorg ...	20		
Division of Krawang ...	3	23	
Province of Preanger :			
Division of Soekaboemi ...	17		
Division of Bandoeng ...	10		
Division of Tjiandjoer ...	5		
Division of Limbangan ...	2	34—	62
CENTRAL JAVA—			
Province of Semarang ...	24		
Province of Soerakarta ...	26		
Province of Kedu ...	2		
Province of Pekalongan ...	9		
Province of Madioen ...	3—	64	
EAST JAVA—			
Province of Sourabaya ...	5		
Province of Kediri ...	52		
Province of Pasoeroean ...	62		
Province of Probolinggo ...	12		
Province of Bezoeki ...	39—	170	
Grand Total ...	...	296	

As is shown above, East Java still remains the foremost coffee-growing district in the Indies. For the lack of a Government central statistical office again it is absolutely impossible to furnish exact information in regard to the total capital invested in private coffee estates. A rough estimate would place

the amount at certainly not less than £4,000,000 (G. 48,000,000 Dutch currency).

CROPS AND THEIR PREPARATION.—The period required for maturing the coffee berries, apart from the question of good or bad weather, is principally governed by the altitude on which the coffee gardens are situated. The higher the altitude the longer the time the fruit will take to ripen, requiring sometimes from seven to twelve months. The coffee tree ordinarily bears fruit three times a year, yielding the so-called previous, the big, and the after crop, each rapidly succeeding each other. The tree will commence to bear fruit after two or three years, but abundant crops may not be expected for five or six years. These ordinarily continue until the fifteenth year; but there are exceptional instances where the trees of forty years of age still produce sufficient crops.

There are two methods of preparing the berries—the local method and the so-called West Indian or Brazilian method; but the latter system is now adopted almost everywhere, as coffee prepared in this way realises

of jute, containing one picul of coffee (61.76 kilos.). The coffee, however, is not often baled at once, but is placed in the stores at the factory, because it has been proved that under favourable conditions the good qualities of well-prepared coffee are strengthened by such storing. This method is adopted by the Government, who leave a part of their coffee in store from one to four years, and while this means a loss in weight, such a loss is compensated by a considerable increase in value.

VARIETIES OF COFFEE.—The variety of coffee cultivated most extensively in Java is that originating from the *Coffea arabica*. During the last three decades, many other varieties have been introduced, such as Maragogype, Laurina, Mauritiana, Liberica, and, of later years, Robusta coffee. But of these the Liberia coffee is the only variety that need now be considered. In many regions it has superseded the *Coffea arabica*, and seems to be the coffee tree of the future, at any rate for Netherlands India. The tree is large and vigorous, the berries and seeds



SORTING COFFEE BEANS.

always the highest prices in the market. By the first method the berries are dried in the sun or artificially in the factory according to different systems, as that of Van Maanan or that of Huyser. The husks of the dried berries are removed by means of different kinds of pulpers and hullers, such as the coffee pulper of Lidgerwood, or of Gordon, and the coffee huller of Lidgerwood, which are generally worked by water, or steam power, and, rarely, by hand. It is generally accepted that five to six piculs of freshly plucked berries give one picul of prepared coffee ready for the market. By the West India or wet method, the ripe coffee berries are at once pulped after their plucking. The coffee berry, being thus deprived of all its fleshy mass, is thoroughly washed and then dried, moulded, or stamped and fanned in order to remove the horn-cod or husk. Coffee remaining in the horn-cod is called "gabah." This wet method of preparing coffee gives a brightness to the beans which is much appreciated on the market. After sorting, the coffee is generally packed in strong bales

are larger, sometimes double the size of those of the ordinary coffee tree. Owing to its vigorous constitution the tree is more able to resist disease, and moreover, as has been stated, it flourishes upon the lower levels where the *Coffea arabica* cannot be cultivated with overmuch success. The berries ripen throughout the whole year, but it is rather difficult to remove the fleshy pulp of the berry from its beans. Moreover, only the West India method can be applied to the preparation of the coffee, as when the local method is adopted the resulting beverage has a bitter, disagreeable taste, and is undrinkable. During recent years, however, it must be said that the preparation of Liberia coffee has been greatly improved by the introduction of new and well-arranged pulpers and other machinery, and there is hope of still further advance in this direction. Of late years the private planters in Netherlands East India have succeeded in grafting the ordinary *Coffea arabica* on to Liberian understems. The result has been a vigorous plant, more able to resist the "leaf-blight"

than the original *Coffea arabica*, and yet producing fruits of the same quality as from this latter variety. The cultivation of coffee "hybrids," however, resulting from Liberia coffee and *Coffea arabica* has not so far been pursued very extensively, owing to the difficulty of obtaining sufficient hybrid seeds.

DISEASES AND PLAGUES.—The coffee tree is exposed to many diseases and plagues. These are occasioned especially by meteorological influences, but it is the duty of the planter to study these influences locally; general principles of experience may not be depended upon in this case, considering, for instance, that Buitenzorg, West Java, receives 172 inches of rain in 225 raindays a year, whilst Kediri, East Java, receives 67 inches of rain in 97 raindays a year. Worms, insects, and their larvæ threaten the coffee plant below and above the surface of the soil, whilst fungi and other varieties of parasitic plants occasion still greater evils, one of these fungi, the *Hemileia vastatrix*, occasioning the dreaded "leaf-blight," surpassing all other evils. This fungus attacks

the young leaves with sulphuric acid; the protection of the plantations from the winds by means of fences of high, upgrowing living wood, which would catch the germs brought by the winds and prevent their reaching the coffee trees. Such expedients have accomplished something, but are by no means decisive, and the disease continues its inroads. The Government researches in this matter have resulted in the establishment of the following facts, which should be observed by every thorough coffee planter:—

1. The coffee blight is caused exclusively by the spores or germs of the *Hemileia vastatrix*, which are conveyed by the winds. Spores on moistened soil or in the water germinate at once.

2. The spores develop only when the intensity of the sunlight has diminished to a certain minimum. Water, oxygen, and more or less obscurity are the conditions designed for their germination.

3. The disease appears with the beginning of the rainy season, and the direction of the prevailing winds determines the course it

its influence become black and fall. The only remedy, and it is by no means a sufficient one, for preventing this disease from spreading, exists in the plucking and burning of the attacked leaves.

But in addition to such plagues, great damage is often done to the coffee tree by many different varieties of insects; the coffee louse (*Lecanium coffeae*) can cause much destruction. Sometimes a tree is covered by them as with a coating of soot. For a remedy the plant should be carefully syringed with tobacco water. The "coffee-borer" (*Hylotrichus quadrupes*), a little weevil, deposits its eggs on the bark of the coffee tree; the larvæ bore their way to the centre of the trunk, and from there make their way in spiral fashion to the top. Under their influence the tree languishes, and the attacked parts have to be cut away and burned. Other insects attack the roots of the coffee tree, but the only remedy against this plague consists in the up-digging of the attacked tree and the extirpation of the insects.

Now, however, that a splendidly organised Department of Agriculture has been established, it is hoped that scientific research will discover some means of effectually safeguarding crops against, at any rate, these more destructive forms of disease.



COFFEE FACTORY WITH HYDRAULIC POWER, SHOWING PIPE-LINE AND POWER-HOUSE WITH TAIL-RACE (EAST SUMATRA).

first of all the leaves; the disease is recognised by orange-yellow spots underneath the leaf, which spots, however, can be removed easily with the hand. If the disease continues, the leaf falls, branches and berries become black, and the tree languishes. Extensive plantations of coffee trees have been destroyed by the "leaf-blight" within a few months. Many expedients have been tried to safeguard the plants from the parasite. Originally the soil was worked more deeply, and greater care paid to manuring, but while in such instances the plants became more vigorous and so better able to resist the ravages of the disease, the blight was not prevented altogether. Then measures have been employed to kill the disease, and precautions taken to prevent its outbreak as far as possible, among which may be mentioned syringing of the plants, especially the young ones in the nurseries, with tobacco-water, or with a solution of iron salt; the pricking of the attacked spots

takes. Fences of quick-growing trees, such as *Bixa orellana*, should be planted on the wind side of the garden in order that they may catch the spurs and prevent them spreading.

4. Where the *Hemileia* occurs sporadically, the attacked leaves can and must be disinfected, and the attacked spots cut out. A strong solution of tobacco-water kills the spurs, and with this solution all such fences as those mentioned above, as well as the young plants in the nurseries, should be syringed.

5. In order to prevent the entrance of the disease into the nurseries, the fences should not be removed when the shading-roof is taken away so as to accustom the young plants to the sunlight, but rather should be made still more compact.

The fungus "djamoer cepas" is another evil which has to be attacked continually by the planters; it is a white fungus appearing at the lower side of the leaves, which under

TRADE.

If quantities alone are considered, the position Netherlands India holds in relation to the other great coffee-producing areas is comparatively insignificant, for she provides only a small percentage of the world's annual coffee crop, while the low-grade Brazil coffee represents more than one-half of the total supply. As a first-class coffee-growing country, however, Netherlands India has held her own for nearly three centuries, and that she will not only maintain but wonderfully improve this relative position cannot be doubted. There are still great tracts of virgin forest soil in the various islands of the archipelago, outside of Java, where coffee may be successfully cultivated. Java is excepted, because, with the dense population of over thirty-one millions of inhabitants, increasing every year, doubling every thirty-eight years, there is already little enough ground for producing a large coffee crop, and an increase can scarcely be anticipated.

In order to show the considerable fluctuations there have been in the price of Netherlands East India coffee since the plant was introduced to Java, the following quotations from the market at Amsterdam are given. At the first coffee sale in 1711, Java coffee realised as much as 21½d. per lb.; during the time of Napoleon I. it went up as high as 49d. per lb.; in 1830, the beginning of the Belgian Revolution, it dropped to 4d. per lb.; but reached its lowest point, 3½d. per lb., in 1848. In 1874, after the Franco-Prussian war, Java coffee went up to 13½d. per lb., but in 1885, during the financial crisis in the sugar trade, it dropped once more to 4½d. per lb.; in 1891 it was 11½d. per lb.; in 1899, owing to large stocks and imports of low-grade Brazil coffee, it realised only 4½d. per lb. In 1908 good ordinary Java coffee fetched 7½d. per lb. This brief summary shows clearly the extremely speculative character of the coffee trade. Indeed, coffee is a far more speculative article in the market than any other tropical produce, cinchona bark and cotton perhaps excepted; and yet, as will be pointed out later, it is in the power of the Netherlands East India coffee planters themselves to introduce a steadying influence and to

alter this state of affairs very considerably. The bulk of the Netherlands East India coffee is shipped to the Netherlands. In former years the Colonial Government levied an export duty of 36½d. per 100 lb., but now not only has this been entirely abolished, but the coffee imported into Holland is exempt from duty also. The comparatively small proportion from Sumatra only goes direct to the United States, but the quantities are increasing year by year.

Some rough idea of the net profit a private estate may be expected to yield in Netherlands India may be gathered from a consideration of the following calculation. The establishment charges and the cost of planting for the first three years average from £15 to £20 per acre. This does not include management expenses or the cost of buildings and factory, which differ widely in particular cases. All other expenses, however, have been taken into consideration. In the following years such charges amount to between £4 10s. and £5 per acre. The fourth year is the first year of the regular crops. Then a crop of two piculs (272 lb.) of marketable coffee per acre may be expected, increasing every year by ¼ of a picul (45½ lb.), until the twelfth year, when the maximum production of 4½ to 5 piculs (634½ lb. to 680 lb.) marketable coffee per acre is obtained. The cost of one picul (136 lb.) marketable coffee, hulled in Netherlands East India—sometimes it is preferred to have the beans hulled in Holland—may be estimated at: (a), £1 13s. 4d. for expenses of maintenance on the estate; (b), £1 5s. 8d. for expenses from the plucking of the berries until the sales in Amsterdam, making up a total of £2 19s. per picul, or 5½d. per lb. Whenever coffee is sold below that figure it involves a loss to the estate.

As, no doubt, the forced Government cultivation of coffee in Java will be abolished before long, it is unnecessary to go into the details of how such coffee is produced. The total production of Government coffee in Java amounted from 1827 to 1908, both years inclusive, to 52,030,147 piculs, or an average of 634,514 piculs a year. The largest amount produced in one year was 1,267,167 piculs in 1879, and the lowest 30,702 piculs in 1907. This coffee, including the expenses of the sales in Amsterdam, cost the Netherlands East India Government not more than £1 13s. 4d. per picul, or something below 3d. per lb. It may be left to the reader to draw from these figures his own conclusions regarding the payment the native populations receive for their forced labour.

But let us give credit where credit is due. The same Government which in certain districts of Java still maintains the forced labour cultivation and deprives the natives in some measure of the rightful payment for their labour, distributes coffee seeds of the very best quality profusely and gratuitously among the native population in nearly all the other islands of Netherlands India for the sole purpose of promoting as far as possible the free and unfettered cultivation of the plant. The adoption of such a progressive far-seeing policy was due to the pressure brought to bear upon the Government by the Department of Agriculture. Not only coffee seeds but the seeds of nearly every kind of tropical produce are now distributed. However humble the applicant may be, he receives the same treatment as the wealthiest company, all requests being tabulated and dealt with in the order in which they are received. My conviction, based upon close personal observation and thirty years' knowledge of the country, is that no institution in the whole of the Dutch East Indies has done more for the people than the

Government Department of Agriculture under the splendid management of Dr. Melchior Treub and his staff of able assistants.

POSSIBILITIES FOR THE FUTURE.

Since the introduction of the Agrarian Bill of 1870, the Government have leased many large areas of land in Java to private cultivators, and, as a consequence, the supply of ground still available for starting new plantations is becoming more and more limited. Agricultural estates in Java have known their times of great depression—the period following the formidable sugar crisis in 1884–5 furnishing but one example,—but they have not only soon recovered but have increased in prosperity. The latest “boom” in the extension of private estates in Java came when it was generally admitted by the planters in Netherlands India that good returns might be expected from the cultivation of rubber trees. The position of the Government then became somewhat embarrassing. On the one hand, they recognised the benefit of strong new private estates, of introducing fresh capital into the country, of bringing money into the hands

is at present the official agricultural policy in Java.

The policy adopted by coffee cultivators has undergone a great change in recent years. There are still some planters who occupy themselves exclusively with growing coffee plants, but a great majority combine with coffee the cultivation of other tropical produce, such as tea, cinchona, rubber, pepper, cocoa, and kapok, so that they may not be entirely dependent upon the crops of any single variety. This sound policy has been generally adopted on account of the havoc wrought in coffee crops by diseases, and the serious decline in market prices brought about by the large exports of coffee from Brazil. Java may recover her position as a coffee-growing country, and her coffee returns within a short period may be as great as ever they have been in the past. But the real future of the Netherlands India coffee trade depends upon the exploitation and cultivation of the islands outside of Java. In those splendid islands the embarrassing and stirring problem of increasing population does not exist as it does in Java itself, and the entire policy of the Netherlands East India Government is now tending towards



ROBUSTA COFFEE TREE IN FULL FLOWER (24 YEARS OLD).

of the native population in return for their labour, and of managing numberless small native industries, and regularly increasing the annual contribution; while, on the other hand, they saw it was their imperative duty to reserve land for the agricultural pursuits of the natives in order to supply the need of the rapidly increasing population in what is already one of the most densely populated countries of the world, and at the same time to reserve all available jungle and forest country high up in the mountains, in order that at least 20 per cent. of the surface of the island might be retained as forest land and regularly exploited and worked by the Government. The difficulty is being solved by strictly preserving the ground which it is estimated will be required for the agricultural pursuits of the natives for the next seventy-five years; by marking the boundaries inside of which Government forests are to be preserved, and by then handing over to private capital and enterprise all the waste jungle country that is available or may be required. This

the development of those territories in every way, being persuaded that such a policy will ultimately result in yearly increasing immigration of labour into those islands from the overcrowded centres of Java itself. There can be no more favourable time than the present for European capital and enterprise to secure to themselves the still available first-class virgin forest country which is especially adapted for coffee-growing purposes. From two to three millions of acres of profitable new coffee plantations might be established in Netherlands East India, if enterprise, initiative, and capital are not lacking. In Sumatra especially the opportunities for such extension are most favourable.

FACTORIES.

The factories on the coffee estates in the Dutch East Indies are generally furnished with the most modern appliances for manufacturing their produce, but in certain respects they cannot be compared with the tea factories.

The tea cultivators take the utmost care in preparing, sorting, and packing their tea, so that it may realise the highest possible price, and in this way the registered trade marks of the various estates become well known in the markets. The coffee manufacturers stop half-way. They simply offer their well-prepared coffee beans to the buyers. They do not trouble about the various other processes which would enable them to place on the markets, not coffee beans, but well-prepared

is one of the measures necessary in order to maintain the price of coffee in the general market. There are, as is well known, several roasting, moulding, sorting, and packing coffee factories in some of the towns of Netherlands India at the present time, but they are not situated near enough to the coffee estates. In these respects, surely the coffee planters have still something to learn from the cultivators of tea.

The coffee growers of Netherlands India

ciation. Most of them belong to the High and Lowlands Agricultural Association of Salatiga, Central Java. This society exists for the promotion of the cultivation of coffee by scientific methods. A society is required which shall devote itself exclusively to the advancement of the planters' business interests. Estate dividends would surely rise if the cultivators would co-operate among themselves to place their produce more advantageously on the market.

LOCAL COFFEE MARKETS.

Although coffee is grown so largely in Java, the average consumption of the beverage per head of the population is very low, and more attention might profitably be paid to the organisation of the local trade. The bulk of the coffee from Netherlands India is still regularly shipped to the Netherlands. This to a large degree is due to the fact that coffee from the Dutch colonies enters Holland free of duty. Such a policy of free trade or preferential treatment for the colonies cannot be too strongly commended. But there is little or nothing done in Holland itself to push the sale of Netherlands India coffee more than that of any other country, and this is another matter which could and ought to be taken in hand by Netherlands India coffee growers themselves. An active propaganda is required to make the Netherlands India coffee more widely known, and to attain this end the planters, through their associations and by co-operation, ought to get into touch with the great retail merchants.

In conclusion, it may be said generally that the prospects for coffee cultivation in Netherlands India are of the brightest. The extension of estates, outside of Java, and especially in Sumatra, coincides with the determination of the Netherlands East India Government to open up the whole of the interior of that great island by the construction of a trunk railroad from south to north, with branch lines to the different ports, and the already existing Government and private lines east and west. Whether such a progressive policy will be carried out rapidly or slowly depends in a large measure upon the opening up of new private agricultural estates. European capital and enterprise are required, and then the Government co-operation, without which the most promising venture may collapse, will not be lacking.

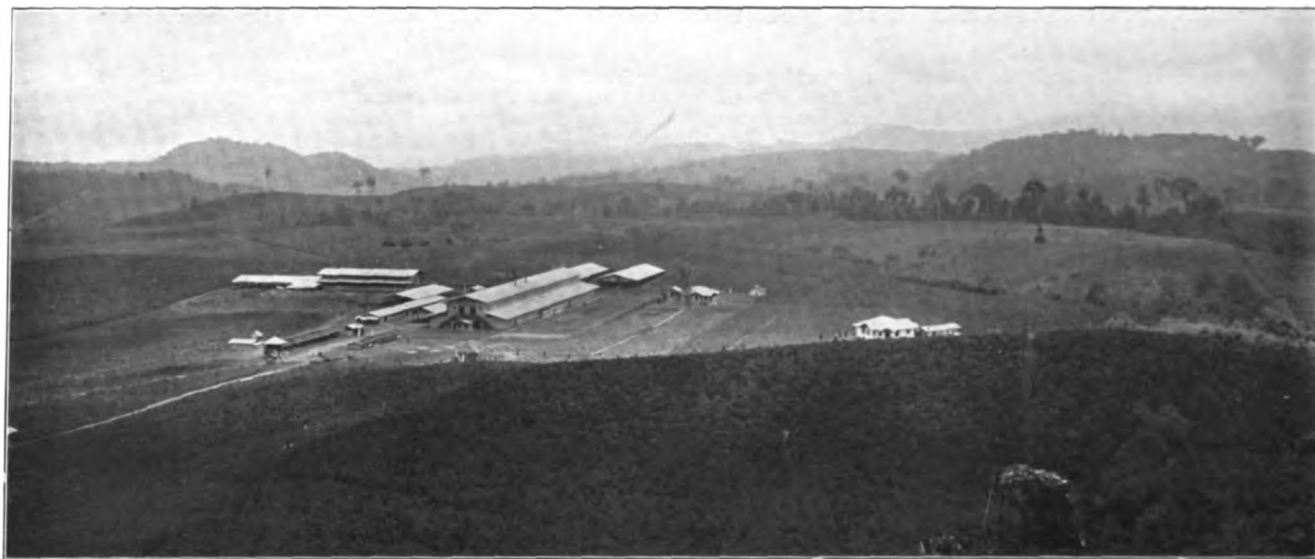


DECORTICATING LIBERIA COFFEE BEANS, BOURO, MOLUCCAS.

sorted, roasted, and moulded fine coffee, packed in tins or in boxes inlaid with lead. If such a system was adopted, it would not only entirely change the existing methods in the factories of Netherlands India, but, when it became universal, would in some degree revolutionise the wholesale coffee trade. Such a departure is quite within the power of the coffee factories in Netherlands India, and

must also do more to bring themselves into direct touch with the consumers. The enterprise and initiative of the tea planters will also serve as an example to them in this direction. The Dutch Lipton who would put such a principle into practice on a large scale has yet to be born, and in the meanwhile, therefore, the coffee-growers as a whole should establish a coffee propaganda asso-





GENERAL VIEW OF A TEA ESTATE, SHOWING FACTORY.

TEA.

BY R. A. KERKHOVEN, Manager of the Malabar Division of the "Assam Thee Onderneming Malabar."

IN the history of Netherlands India the existence of tea shrubs in these regions is for the first time mentioned by the historian Ds. Valentyn, who, in the year 1691 visited the garden of the ex-Governor-General J. Camphuys, at Batavia. In the fifth volume of his great work on Netherlands India (p. 322) he says: "Allerlei zeldzame gewasschen waren in dezen tuin van zyn Oud-Edelheid. Ik heb 'er jonge Thee-boomkens uit China, van grootte als Aalbesien-boomkens, alsmede twee zeldzame aapen gezien" (There were all kinds of rare plants in this garden of His Excellency. I saw young tea shrubs from China, about as large as currant trees, and also two rare apes). It seems, however, that these plants served only as a curiosity.

In 1728 the Dutch Government offered a prize for the first pound of tea plucked and manufactured in Java, at the same time pointing out the great importance of an increased tea trade with Europe, and especially calling attention to the large profits that would result from the possession of their own tea plantations. Owing to the difficulty of obtaining tea plants or seed from China in large quantities, and to the want of skilled tea-makers, this effort of the Government, however, met with no success.

No further attempts to introduce tea culture into Netherlands India were made until 1826, about simultaneously with its introduction into British India, or perhaps a little earlier.

In 1826 Dr. Ph. T. von Siebold, Dutch delegate to Japan, sent tea seeds and cuttings to Java. These were immediately conveyed to the famous Botanical Gardens of Buitenzorg, and carefully planted.

In the next year, 1827, an expert tea taster of the "Nederlandsche Handelsmaatschappij," of Amsterdam, J. J. L. Jacobson, arrived

at Batavia, and in the subsequent years played a very important part in the development of the tea culture on Java. Several times during the years 1828-33 he made trips to China in order to obtain good tea plants and seeds, which were carefully packed and transported to Java. Here they were planted in several places all over the island, and thrived very well. Those in charge of the plantations, however, knew nothing of the manufacture of tea, and even among the numerous Chinese inhabitants of Java nobody could be found who was able to make a satisfactory sample of tea. It was evident that skilled tea makers had to be introduced from China, and in January, 1832, Jacobson brought with him one Chinese tea planter, four tea makers and seven artisans.

Many tea plantations were started by the Government of Netherlands India, and in 1841 104,330 kilogrammes (230,000 lb.) of dry tea were produced. In 1850 the production amounted to 1,032,748 kilogrammes (2,280,000 lb.). After this year, however, the statistics show a steady decrease of the quantity of tea produced. The plantations under direction of the Government proved to be less and less profitable owing to the expensive management, and gradually the monopoly was given up. Subsequently all the plantations were farmed out as private enterprises, and in 1865 the last Government plantations, Djatinangor and Tiikadiang, were leased out. It was not until 1870 that the cultivation of tea began to develop again. In this year a new era for this culture began with the introduction of the Agrarian Law, whereby the Government let out lands on long lease (for seventy-five years) against indemnifications varying from FL. 1 to FL. 5 per bouw (about 1 to 5 shillings per acre), with an average of FL. 2 per bouw.

Eight years later, Assam hybrids were imported into Java. The results obtained

with these hybrids were far from encouraging, and it was only when the pure seeds of the Jaipur, Bazalony, Manipur, Assam indigenous and other types were imported that the tea culture in Java began to show a steady and rapid increase.

METHODS OF CULTIVATION.—Formerly an altitude of three hundred to eight hundred metres (one thousand to two thousand seven hundred feet) above sea-level was generally considered the most advantageous for the cultivation of tea, and it is a fact that some low-lying estates (for instance, Tjiboengoer at 300 metres) yield as much as 1,270 kilogrammes per hectare (1,130 lb. per acre). But it has been proved beyond any doubt that Assam tea thrives exceedingly well in Java at altitudes of 1,800 metres (6,000 feet), and that under favourable conditions its yield is considerably larger than in lower regions. When plucking the three topmost leaves, plus half of the fourth leaf, average crops of 1,580 kilogrammes per hectare (1,410 lb. per acre) have been obtained at Malabar, which is situated at a height of 1,700 metres. This tea averaged in 1908 644 cents per kilogrammes (74d. per half kilo in London). The flavour seems to be dependent less on the altitude than on local conditions. The teas of the "Goenoeng Gedeh" regions especially show a fine flavour.

Other points of consideration are:—

FERTILITY.—This is, of course, a very important factor, and should be very carefully investigated before starting a new estate.

GROUNDS.—The ground should not be too hilly. Steep hillsides are objectionable, because of the difficulty of preserving the soil, and of the inaccessibility for the plucking women.

WATER.—This is also a most important detail, as it is indispensable for a sanitary condition of the European and native quarters,

and for a cheap means of driving the factory. If not available in the immediate neighbourhood, the possibility of bringing it to the estate should be carefully investigated. As

three feet between each and five feet between the lines. On hilly ground the lines of the terraces are followed in staking.

If working has begun in April or May the

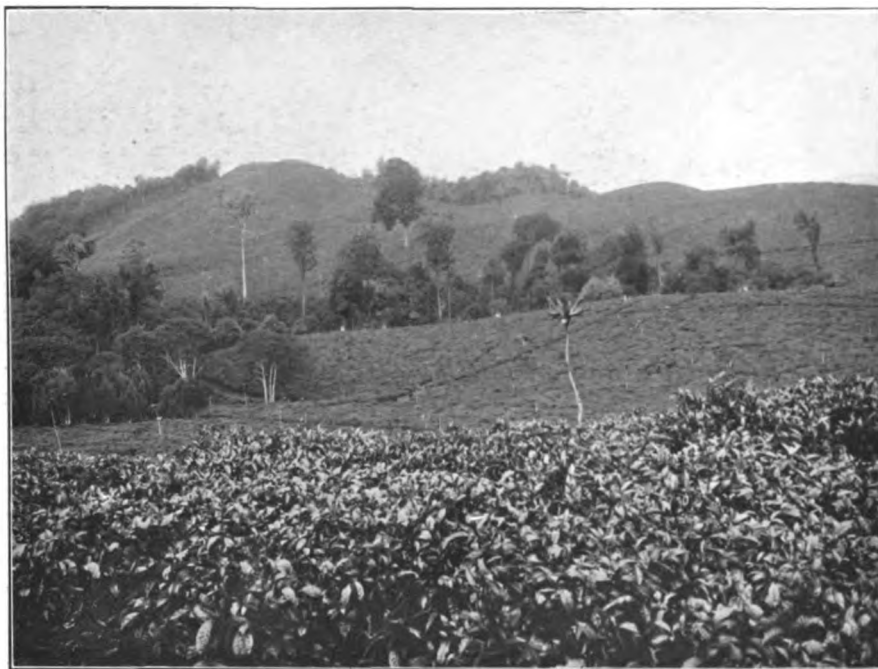
generally laid, about an inch deep. This method is chiefly adopted in high-lying plantations. In those of lower altitudes it is occasionally liable to failure when the east monsoon is very violent.

The seed is usually obtained from tea shrubs which have been allowed to run to seed, and which have thus reached a height of from eight to ten metres. In order to be sure constantly of getting ripe seed only the fallen seeds are gathered. These are sifted into what are called "floaters" and "sinkers," and as a rule only the "sinkers" are planted out in the open soil.

The "floaters" are less likely to turn out well; nevertheless, as they contain many seeds capable of germinating, they are usually planted in nurseries, in order to turn them to advantage as far as possible.

The seeds germinate in the warm, low regions usually within ten to fourteen days, but on high-lying plantations the greater part only germinates within two to three months. Sometimes it takes seven to ten months. The one-year plants already attain such a height that they must be cut down. The branches are then regularly cut away down to a height of two feet. Within two or three years the double plants can be dug out and used to replace those which have failed to come up. In the third year, the young plants begin to put out leaf in quantity, and regular plucking may then be begun.

In the second method of plantation, the seeds are not put direct into the open ground, but are planted in nurseries. When the plants are at least two to three years old, they are cut off about 1½ feet above the ground and bared of their leaves. They are allowed to stand thus for about five days, and are then dug out. At the same time the tap-root is cut off at about a foot and a half's length. These excavated plants are carefully transferred, without clods, to the



TEA GARDENS.

a means of driving the factory, either directly or by means of electricity, its value is inestimable.

LABOUR.—The success of a tea plantation depends to a large extent upon cheap labour, and this is the chief reason why tea is exclusively cultivated in Java and not on the other islands. Therefore a plantation must not be started in a locality where little or no labour is available, unless people can be brought over from neighbouring parts and established on the spot. There must be roads and ways for the conveyance of the product, or they must admit of laying down without too great expense.

When a piece of land satisfying all requirements has been found it is surveyed and measured and a lease applied for. After all formalities have been fulfilled working can be begun.

The clearing of the wood is usually begun in the months of April or May, in order to be able to do the burning in the dry months, August and September. After burning, the ground is dug to a depth of 40 or 50 centimetres and then levelled. The total cost of clearing, burning, and digging is dependent on various circumstances and varies from Fl. 50 to Fl. 150 per hectare (£1 13s. 8d. to £5 2s. per acre).

Preferably the whole plantation is divided into square blocks of one hectare each, by long straight paths, when the ground is not too hilly. If the plantation is situated on hilly grounds a system of horizontal roads, connected at regular intervals by sloping roads with a gradient of about one in six, is much used. Before planting, the hilly parts of the clearings are formed into terraces, to prevent loss of soil by wash during the rains. After this, the lining and staking are begun.

On the flat lands the stakes are set up in perfectly straight lines at distances of about

progress when the rainy period sets in is such that the whole of the land is ready for planting. Although the first rains fall as early as October it is usual, in order to be



PLUCKING THE LEAF.

quite safe, to delay planting until the end of November or beginning of December.

There are two methods of planting. The simpler and cheaper is that of planting direct from the seed. At each stake two seeds are

garden and planted there in the ready-prepared holes. This method likewise gives very good results.

UPKEEP OF THE GARDENS.—Proper attention is of the utmost importance when the

plants are still very young. The plantation must be kept clean by careful weeding. In Java this is mostly done by women. When the plantations are once in leaf, they are much more easily tended. As a rule, it is sufficient to clean them from time to time, and furthermore to dig round them once a year with a spade.

Pruning is also a necessary attention. With regard to the best method of pruning there are very divergent opinions. On some plantations it is done once a year; on others, every three years. Pruning must be regarded as a necessary evil, as it usually throws the production back for a considerable time.

Sometimes pruning is needed because the tea shrubs have blossomed in such a way that they throw out but few fresh shoots, and in other cases (on high-lying Assam tea plantations) it is needed because the plants have grown so high that the pluckers find it hard to get at them. The average height at which they are pruned is about 27½ inches. After pruning the garden is quite bare, but in fifty to seventy days so many fresh shoots have formed that plucking can be begun.

PLUCKING.—The method of plucking depends on the quality of tea which it is desired to obtain. If a particular point is made of fine quality, and the leaf is younger accordingly, the prices are higher, but the quantities are relatively small. If the plucking is coarser, the harvest, of course, is larger, but lower prices are secured. It is often difficult to ascertain which method is the more advantageous, but in Java planters appear to incline more to the latter method, which, moreover, explains the fact that Java tea obtains lower prices in the London market than British India tea, whilst the methods of manufacture in Java are certainly not inferior to those of British India and Ceylon.

On many plantations the tea is plucked every ten or eleven days. What is then

This plucking is carried out exclusively by women, who are paid according to the quantity of leaf they bring in. Their pay depends on the supply of labour and the distance over

and the amount read off directly in cents. The amount is paid out immediately, if possible.

The leaf is collected in large baskets or boxes, is weighed up again for checking,



TEA LEAVING FACTORY FOR RAILWAY STATION.

which they have to convey the leaf, and it varies from 1 to 2 cents per kilogramme (0.1 to 0.2 pence per lb.).

To prevent fermentation during conveyance the wet leaf is carried in cloths or baskets which can contain only a limited quantity,

and then sent direct to the withering house. Plucking continues throughout the year.

WITHERING.—On some plantations withering is done in the sun, but as the sun appears to exercise an unfavourable influence on the quality of the leaf, many prefer to wither by means of a warm current of air. On low-lying plantations it suffices to spread the leaf out on special racks (chungs) in lots, and then to let it lie. In from sixteen to twenty hours the leaf withers sufficiently to be rolled.

On plantations at a greater altitude the temperature is too low for this, and artificial withering has to be resorted to. The leaf is spread out on racks in closed lots, and warm air forced through by means of fans. In establishments of sufficient capacity the entire yield of a day can be withered in this way in a night.

Various kinds of fans are used for this purpose. There are found, above all, many electrically driven Blackman fans, usually of 2½ horse-power. The largest fans used for withering are found in the "Tanara" factory on the "Malabar" plantation. They have a diameter of 108 inches, and make 180 revolutions per minute. They are driven by a rotary current motor of 7½ horse-power and displace 3,400 cubic metres of air per minute (120,000 cubic feet per minute.)

Withering is continued until the leaf contains no more than 55 to 65 per cent. of moisture.

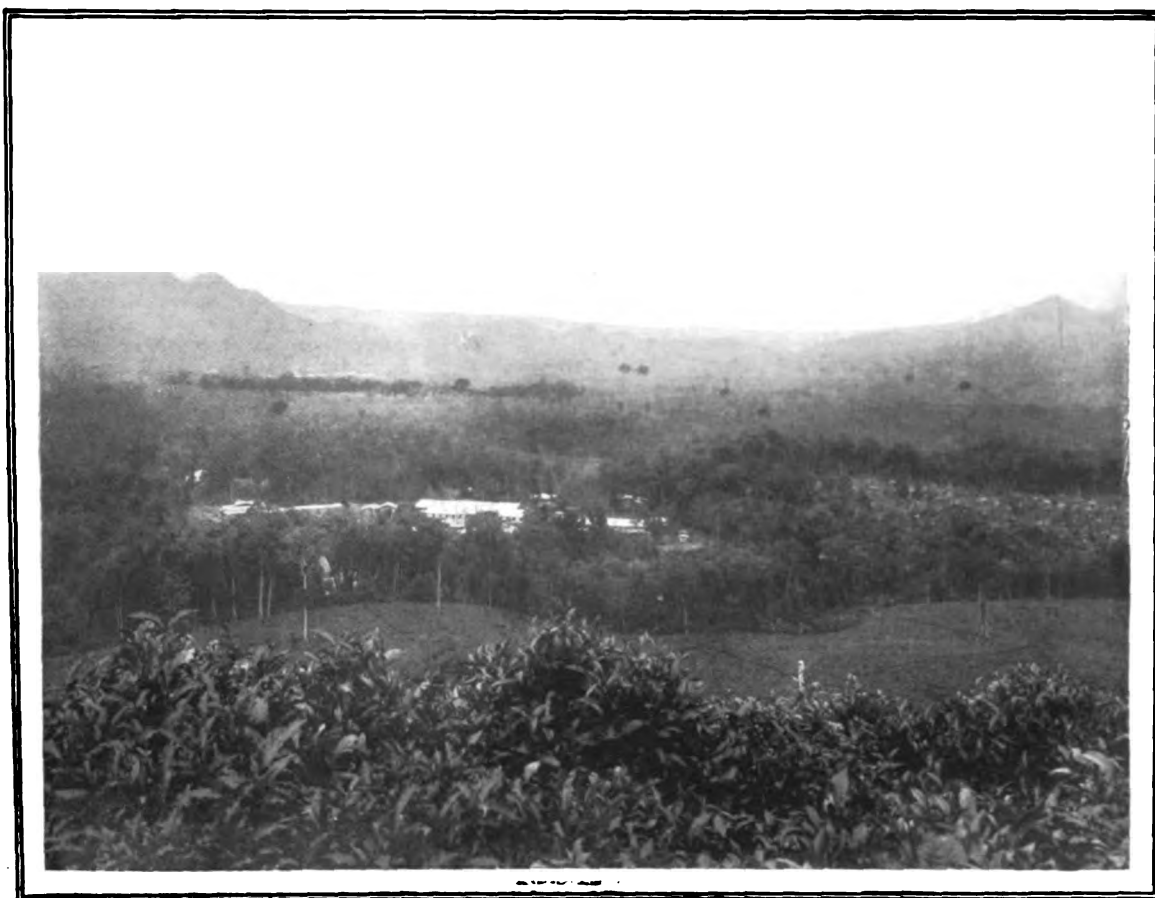
ROLLING.—On most plantations the leaf is thereupon immediately rolled. For rolling, which was done by hand thirty-four years ago, rolling machines are used, at present imported almost exclusively from England. Above all, Jackson's rapid rolling machines, made by the firm of Marshall, Sons & Co., are used for preference. Good results are obtained from a single rolling for three-quarters of an hour. Many prefer, however, first to roll the tea for thirty to forty minutes, then to ferment it, and



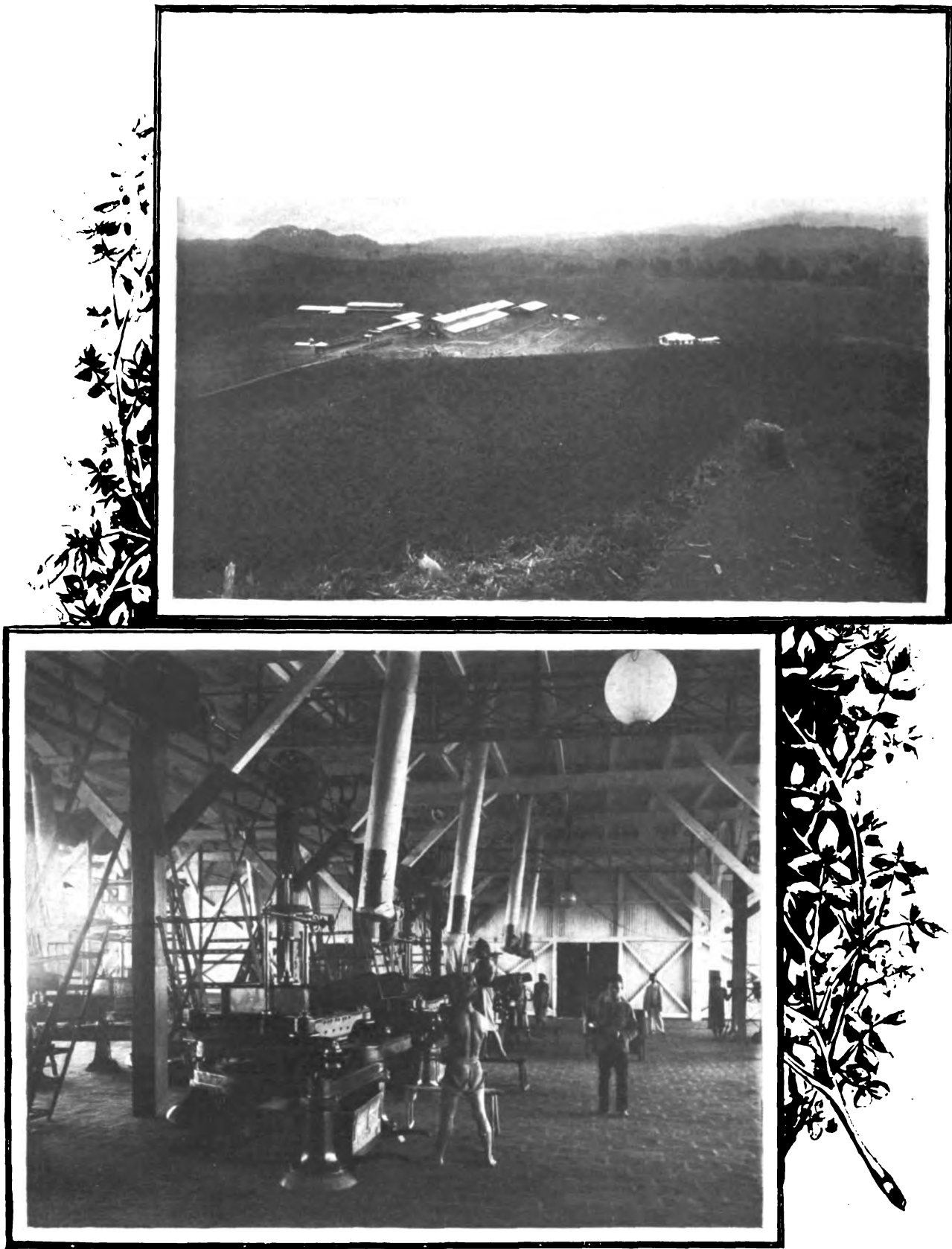
WOMEN BRINGING IN THE WET LEAF.

plucked is the small top leaf (pekoe), the two following leaves and half or three-quarters of the third leaf; the stalk of this leaf is allowed to remain.

The filled baskets or cloths of each plucker are weighed on arrival in the factory by a spring balance, the scale of which is so divided that the tare is immediately deducted,



MALABAR TEA ESTATES NEAR BANDOENG: GENERAL VIEW OF GARDENS, SHOWING FACTORY AND STREAM SUPPLYING POWER FOR ELECTRICAL MACHINERY.



TANARA DIVISION, MALABAR TEA ESTATES, NEAR BANDOENG.
GENERAL VIEW OF PLANTATIONS AND FACTORY, AND ROLLING DEPARTMENT.

afterwards to roll it once more from twenty to forty-five minutes.

FERMENTATION.—A very important and interesting process of manufacture is fermentation. With regard to this many investigations have been made by Dr. A. W. Nanninga, Dr. Ch. Bernard, Dr. J. Bosscha, and Mr. K. A. R. Bosscha.

Practice had long shown that the tea, as it leaves the rolling machine, must still be allowed to lie for some time before becoming dry. This is needed in order to give the various chemical constituents of the leaf, which have been forced out in the rolling, time to act upon each other. It is during this process that the qualities giving the tea

continued too long, however, these phlobaphens become insoluble; they are retained in the leaf when the tea is made, and the decoction is light.

The extent to which organised ferments (bacteria) are active in the process described is not yet quite ascertained; but there are phenomena indicating that their action is present. Thus, upon some plantations the time of fermentation has gradually grown shorter and shorter, and now amounts to thirty minutes where formerly four hours were required.

The exact fixing of the moment when fermentation must be interrupted (by drying) is very difficult, and is one of the most troublesome tasks of the factory employé. To

caused most plantations to set up very good drying plant. The latter likewise chiefly comes from England, although there are very good Dutch tea-drying machines in existence and in use. In using these machines the planter is independent of the weather, and the drying is very rapid.

Furthermore, drying is often done in two operations, but the advantages obtained in this way are mostly so small that, as a rule, it is best to avoid such complications as unnecessary. The ratio of moist leaf to the dry tea is about 44. Investigations on "Malabar" and "Taloen" have shown that the tea, on leaving the drying machines, must contain 3 to 4 per cent. of moisture. In the



TEA SORTING ROOM.

its greatest value—flavour and pungency—develop. The operation, which is mainly an oxidation, or rather an "oxidasis" of the tannin, is initiated by an enzyme, and advances within a period of from half an hour to three or four hours to the point at which the tea has arrived at its maximum strength and flavour. In the oxidasis, disintegration takes place of the tea glucosid (giving rise to the flavour) and the tannin. In the oxidasis of this latter, what are known as phlobaphen substances are formed. Some of these phlobaphens are valuable owing to their dark colour and their solubility in water. If the fermentation is

a certain extent one may be guided in this by the change of colour in the leaf, but it is really only possible to say with certainty whether the fermentation is good by actually tasting the tea when finished. No fixed time for fermentation can be given, as the rapidity of this process is largely dependent on varying factors (moisture in the air, withering, temperature).

If the fermentation has gone far enough, the tea is dried immediately to prevent the process continuing.

DRYING.—The drying of the tea may be carried out in the sun, but the great advantages derived from machine drying have

subsequent treatment, which requires one to two days, during which the tea is exposed to the air, mostly moist, it further absorbs 2 to 3 per cent. of moisture, and then has the very degree of moisture which is most favourable for its quality. This quantity of water is fairly considerable, but to give an idea of this let us just imagine that we had a box filled with fifty kilogrammes of absolutely dry tea. From four to five wine-bottles of water would have to be poured into it in order to bring this tea up to its proper quality. In reality the tea absorbs the necessary quantity of water naturally in the form of watery vapour.

Withering, rolling, fermentation, and drying require about twenty-four hours in a factory, the capacity of which is suited to the quantity of leaf to be dealt with. If the tea, therefore, is withered during the night, the first part of the manufacture, including drying, will have been completed about the following evening. The tea is then weighed and put on one side, in order to be sorted out the next day.

SORTING.—The sorting requires one or two days according to the care given. In a factory where importance is attached to great uniformity and purity in the final product, the first of the two days is devoted to the sorting of the tea into the different kinds. The most usual descriptions of black tea are as follows: Pekoe, Broken Pekoe, Orange Pekoe, Flowery Pekoe, Souchong, Broken Tea, Pekoe Fannings, Congou, &c.

Most of these names are of Chinese origin. For instance, Pekoe or pecco equals "pakhao" (white hair); Souchong, "siae tsiong" (small sort); Congo, "koenhoe" (workman's tea).

For this sorting various kinds of machinery are used, and the most up-to-date sorting rooms contain a coarse rotatory sieve, one or more finer rotatory sifting and cutting machines, a special cutting machine, and a dust fan.

A contrivance is also sometimes fitted to remove by suction from all this machinery, the large amount of dust which is created. The dust is not only useless, but likewise causes a less favourable classification in the market.

The tea now passes successively through the different sifting and cutting machines, and is afterwards still more carefully sorted by women, by means of hand sieves. It would take us too far to describe here the various methods which are used to manufacture special sorts or work for special markets. This sorting into the different descriptions, which is done exclusively by women, is usually completed in a day. The following day is utilised for the purpose of cleansing the different descriptions of tea from all impurities which may have found their way into them. In truth, however careful and clean the manufacture, it is never possible to prevent wood splinters, and pieces of bamboo, from the baskets or brooms, rivets, screws, &c., from getting into the tea. Furthermore, the stalks of the leaves which have been plucked must be removed, so that the final process of elimination of foreign substances is a matter requiring great care, which again is carried out by women. The latter acquire great dexterity, and are able to remove the finest splinters and stalks from the tea with incredible rapidity and certainty.

After the completion of this process the tea is once more weighed, and it must then be found that it has grown heavier (by the absorption of moisture) than at the first weighing directly after drying. If this is not the case, some irregularity has happened, or tea has been stolen.

PACKING.—The tea is now ready for exportation. It is poured into large chests lined with zinc, and kept therein until there is a sufficient quantity to despatch. For despatch the tea is packed in wooden chests of 40 to 70 kilogrammes' capacity. The making of these chests is an important part of the work in a tea factory. Most factories, which have their own wood, also possess a sawmill and other machinery for wood working. When entering a tea factory, therefore, one almost always hears the well-known sound of a circular saw and a planing machine. Light species of wood are chosen for the chest as far as possible, and the

planks are not made thicker than about 12 mm. For one consignment chests of the same tare are selected, and lined inside with lead, and sometimes with paper too. Lead alone is quite sufficient, but not paper alone. Qualities of paper are put on the market made specially for this purpose, and called "waterproof." Tests have shown, however, that after the expiry of about two months the tea in a waterproof, paper-lined chest contained twice as much water as that put into a lead-lined chest. To get as much tea as possible into a chest, the latter during filling, is placed on a machine which causes the tea to settle by rapid vibration (1,000 vibrations per minute). Within ten minutes the chest is full, and can be fastened up. In some factories still more tea is got into the chests by using a press.

After the lead has been soldered up, the cover is nailed down, and the box is provided with the necessary marks.

Conveyance to the nearest railway station takes place by means of native carts. Attempts have been made to convey by

Electric transmission of power has played a very important part of late years, and almost all recent factories have an electric installation. This method of conveying power has the advantage of being entirely independent of the distances over which the power is to be transmitted, whilst, furthermore, the power can be applied everywhere in the factory, independently of the position of driving shafts or intermediate shafts. Extensive use is also made of direct-coupled motors for the ventilators of the withering lofts and the drying machines. For the larger machines, such as the rolling machines, circular saws, &c., power is usually taken from a shaft.

Owing to the distance from the power station being usually fairly great, extensive use is made of three-phase current of high voltage, which is transformed down to 110 volts in the factories. By far the greater part of the electrical machinery is imported from Germany, whilst Pelton wheels are largely employed as prime movers.

The buildings, in places where wood is



DRYING ROOM.

means of motor lorries, but without satisfactory result, as the costs are much too high.

TECHNICAL EQUIPMENT OF A TEA FACTORY.

—In former times comparatively little care was given to the technical equipment of tea factories. Before mechanical rolling and drying had been introduced the entire equipment consisted of a few long tables on which the tea was rolled by hand, and a few charcoal furnaces. At present, from 100 to 200 horse-power and at times 300 are needed for any considerable factory for the purpose of driving the machinery and for electric lighting.

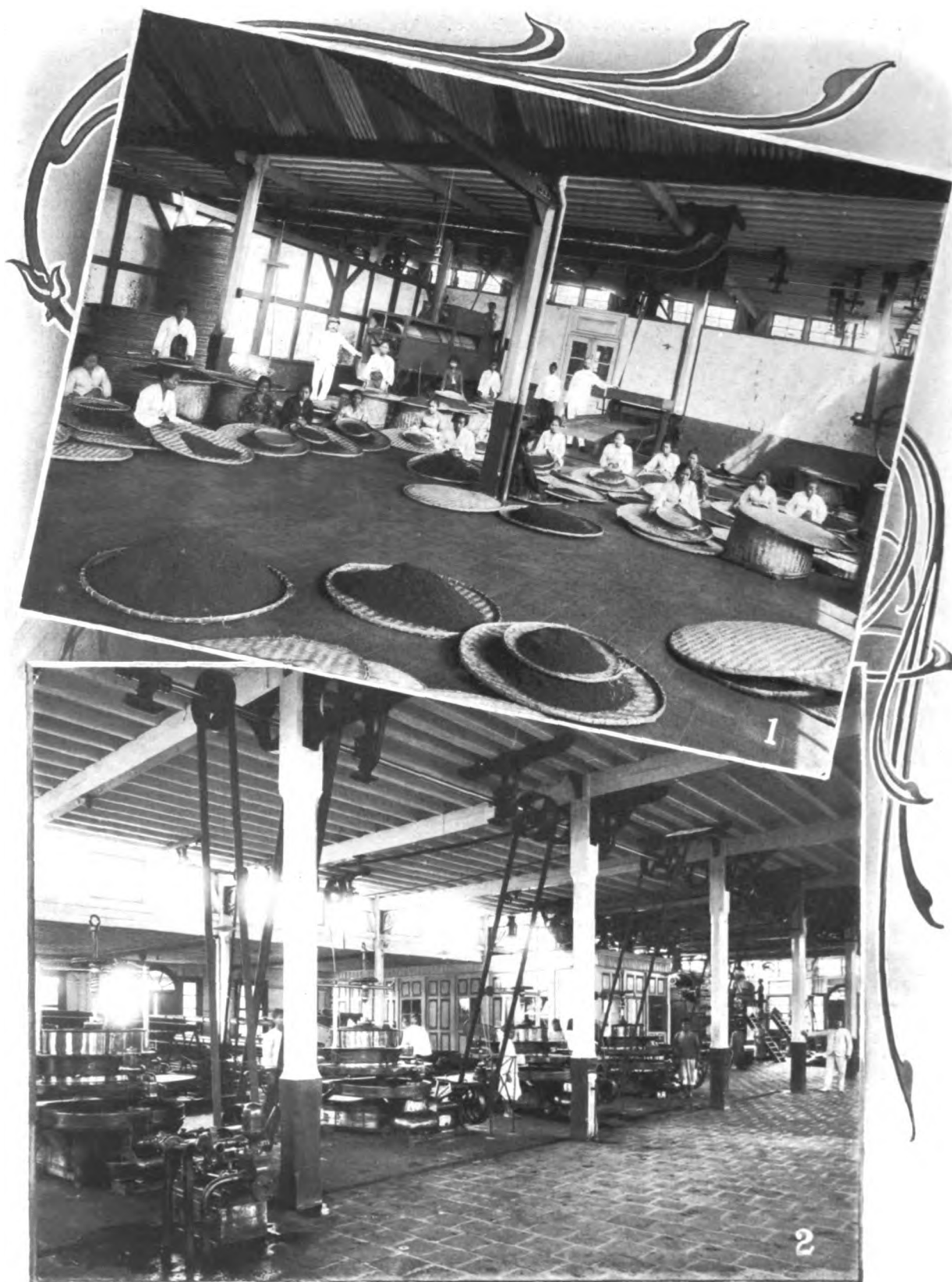
Wherever possible, water is used as the motive power, and steam engines, petrol motors, or Diesel motors are only used where water is scarce. On establishments which possess only sufficient water during the west monsoon a water-power plant is sometimes found, with a steam engine or explosion motor as a reserve for the dry period.

cheap, are erected exclusively of this material, and fitted with a corrugated iron roof. In modern factories one is struck by the careful and correct method of construction, and the well-contrived subdivision of the various rooms and compartments, in which the heat of the drying machines is turned to the best possible advantage.

The largest, and at the same time one of the most modern, factories in Java, is that in the Tanara division of the "Malabar" factory. This factory, which was erected in 1905, covers 121 by 32 metres (397 by 104 feet) and has three floors. It comprises eight rolling machines (with room for twelve) and five Paragon dryers (with room for eight). Furthermore, a spacious sorting room and packing room, and a withering floor on which 20,000 kilogrammes (44,000 lbs.) of wet leaf can be withered in one night. For heating this floor, the waste heat of the drying room is utilised in the first place. This hot air is fed upwards through



PANJAIKARAN ESTATES, TJIBEKER.
 (West Java Cultuur Maatschappij.)
 FACTORY AND PART OF PLANTATIONS, SHOWING MANAGER'S BUNGALOW.



PANJAIKIRAN ESTATES, TJIBEBER.
 (West Java Cultuur Maatschappij.)
 SITTING HOUSE AND INTERIOR OF FACTORY, SHOWING DRYING MACHINES.

holes in the floor. Through these holes the chimneys are at the same time carried up, so that their heat is also turned to account. Then there is, besides, a special heating oven for the withering loft, which at the same

Fl. 250,000 (about £20,000). The chief plantations during 1908 averaged 15 to 20 per cent. in dividends.

EXPORTS.—The total of tea exports from Java amounted in 1908 to 16,627,062 kilo-

JAVA TEA EXPORTS, 1883—1909.

H. Lambe, in his "General Review of Java Teas in 1908" says:—"The past year of 1908 has seen a great advance in the Java tea industry and results must have been satisfactory to all connected with the trade in this country.

"Total exports have shown a 25 per cent. increase on the previous year and have now reached a total of 33,254,124 half kilos., or 36,579,536 English pounds, against 26,624,002 half kilos, or 29,286,402 English pounds, in 1907; and against 15,214,234 half kilos, or 16,736,157 English pounds, in 1901; which means that production has more than doubled in the last 8 years.

"The results of the new clearings and planting of the last few years are seen in the figures of 1908; and it is certain that each coming year must show a further and regular increase in our exports, because planting has, for the past few years, been general (to a large or small extent) on nearly all estates and in very many cases these extensions have been to quite large extents.

"Several new companies have been started during the past year, and it seems probable that we shall see a 50-million export for Java teas within the next seven or eight years or so. It may be here mentioned that the imports of tea seed from British India during 1907 and 1908 are spoken of as having been in very much larger quantity than in any previous years. The deliveries of local Java seed are also of very considerable quantity and the many estates that are producing good seed have no difficulty in selling their entire crops. Holland has in 1908 received 18½ million half kilos against 14½ in 1907; England nearly 11½ millions, against 8½; Russia (including shipments through North China ports) 3 millions against 2½; while on the other hand both Australia and "other



ROLLING ROOM.

time serves for supplying the withering machines with hot air. In order to obtain a sufficient circulation of air in so large a space, a number of Blackman fans, having a total of 35 horse-power are used.

In the factory 150 natives work on the average per day. They are under the inspection of three European employés, two of whom have charge of the manufacture, and one of the machinery and repair workshops.

TESTING STATIONS.—In Java there are two testing stations where investigations are carried out in the interest of tea culture. The principal is the testing station for tea at Buitenzorg, which is a section of the Department of Agriculture and is under the director of that department. Private individuals, nevertheless, contribute to its work. This station, to which a bacteriologist and chemist are attached, publishes periodical reports on the investigations there carried out.

In addition to this station there is at Salatiga in Central Java a general testing station for high altitude cultivations. Furthermore, a large number of the factories and plantations have, at their joint cost, established a tea expert office at Bandoeng, where samples are tested and appraised.

No exact statement of the total tea-planted area in Java is yet possible, as the collecting of statistical data on this point by the department of Agriculture has not yet been completed.

By far the largest number of plantations are in West Java (chiefly in the Preanger Regencies). In Central Java the cultivation is beginning to extend, but in Eastern Java hardly any tea is cultivated.

Most of these plantations have areas ranging between 200 and 1,500 hectares (500 to 3,700 acres). The capital invested in a factory of average size amounts to about

grammes (36,579,536 lb.) This quantity was approximately divided as follows:—

Holland ...	...	...	55 per cent.
England...	...	...	34½ "



PACKING ROOM.

Singapore (and Australia)	5½ per cent.
Russia ...	3½ "
Australia...	1 "
Other parts ...	½ "

ports" show a decrease in the quantity received, namely 300,000 half kilos against 660,000 for Australia and 180,000 half kilos, against 851,000 for other ports."

The total increase in exports from January 1 to December 31, 1908, to all ports is 6,630,122 half kilos, or 7,293,134 English pounds.

PRICES.—Prices during 1908, taken generally, have been good, for the classes of tea which Java produces, which among the world's supplies are, with a few exceptions, classed as "low and medium grade" teas. The prices for such teas have not, of course, kept up to the extraordinary high level of the latter part of 1907, but on the other hand they have never fallen to that very low level which is sometimes seen for the inferior sorts of teas.

In Amsterdam the year started with extremely high rates for low and medium sorts, but from February there was a steady and big decline in prices right through the year, until the January basis for ordinary PS., Pekoe and BP's fell from 40, 41, and 41 cents down to 28, 30, and 32 cents respectively in November and December, with an average rate of 33, 34, and 35½ cents for the fifteen sales of the year.

For ordinary dust, broken tea, and Pekoe fannings the decline was from 38 and 40 cents to 23 and 25 cents, with an average rate for the year of 29 cents for dust and 32 cents for PF's and small leaf broken teas. Teas of very good medium quality (of the Gng. Malang, Gng. Tjempaka Panjairan, Pagilaran, and Pasir Nangka type) in January stood at 45 cents for PS., Pekoe and also BOP grades, but selling irregularly and generally lower, these prices fell by July to 35, 39 and 41 cents respectively, with, however, the good average price for the fifteen sales of 39, 42½ and 43½ cents for PS., P. and BOP.

Well made OP's of medium and finer sorts were always in good demand, and the prices ranged between 50 and 58 cents for the finer teas, and between 38 and 44 for those of medium grade, and averaged 52½ and 40 cents respectively.

The best BOP's, with which Amsterdam is not well supplied (all the best teas going to London), did not fetch good rates until right at the end of the year. Prices varied between 43 and 63 cents, but only once was there a price of over 50 cents, and the average Amsterdam rate for the fifteen sales was but 48 cents, with a highest rate in nearly all sales of 43 to 47 only.

Witpunt Pekoes also saw a big decline in prices, with an 80-cent rate in December against 101 cents in January, for teas of the Soekasarie type.

In London the market ran much on the same lines as that of Amsterdam, except that medium, good medium and finer BP's and BOP's were generally on a higher level on the English market. Finest BOP's of the Goalpara type sold well throughout the year, the price only once falling below 10½d., while the average for the sixteen sales that have been quoted was 11d. Good BOP's, with good tip and strong coloury liquors of good medium quality of the Perbawatie, Tjiwangie and Djatinangor type started on a rather low basis at 8d. to 8½d., but they sold better as the year proceeded, until prices of 9½d. to 10½d. were reached in August and maintained till the end of the year.

Gedeh teas did not till late in the year show their usual fine quality, and the price of their BOP. did not touch 10d. until August, but with improved quality, their prices advanced until the Goalpara level of 11d. was reached and kept to until the end of the year. Good liquoring medium grade teas without tip, of the Malabar BP. type, which are particularly suitable for London and for which there is always a great demand, sold well throughout the year, with a lowest price of 7d. for a few sales and a highest price of 8½d. and with an average rate for the twelve months of 7½d. against 7½d. in 1907.

For ordinary and low-grade teas we find that prices in January were standing at the unusually high level of 7½d. and 7½d. for dust, BT, BP, PS. and Pekoes, but these prices by February had already fallen to 6½d., 6½d., and 7d., and by September-October the quotation had further declined to 3½d. for Dusts, 5d. for PS., 5½d. for Pekoe, and 5½d. for BP's.

The lowest quotations for clean ordinary teas during the year were as follow:—Dusts 3½d., BT's 4½d., PS 5d., Pekoes 5½d., and BP 5½d., but the average rate for the whole year for all these teas is much above these prices and stands at 5½d., 5½d., 6d., 6½d., and 6½d. respectively.

It will be seen, therefore, that 1908 has been a record year for Java as regards the quantity of tea produced, and that for the class of tea that we produce the prices throughout the year have been on a satisfactory and certainly a good paying basis for estates of all elevations and of all qualities.

The outlook for the present year is good. With average weather conditions we must see a further increase in our exports, as it is only a few of the oldest estates that have reached their full production, while on the other hand there are probably but few who have not young gardens still coming forward.

It must also be noted that the teas grown by the native population and sold as green unmanufactured leaf to Europeans is now a big item and is still increasing.

MALABAR TEA ESTATES.

A DESCRIPTION of the Malabar Tea Estates must necessarily be included in a section, however short, dealing with the tea trade of Java. They are not only the best known in Netherlands India, and the object of admiration if not of envy of the many planters, both from British India and Ceylon, who from time to time pay them a visit, but the estates together—Malabar and Tanara form the largest tea-producing area in the world under the direct supervision of one manager, and have an output representing ¼ per cent. of the world's total tea supply.

The estates are situated 34 miles south of Bandoeng at an altitude of some 5,000 feet above the level of the sea, and cover 3,000 acres, of which 2,000 are cultivated. They were opened in 1806 by the present manager and part owner, Mr. K. A. R. Bosscha, and

the remarkable success which has attended the enterprise since its initiation is very largely due to his capable direction. Mr. Bosscha, who is a native of Holland, has been resident in Java since 1888, and for the past seventeen years has devoted himself exclusively to tea cultivation. A progressive policy has always been adopted on the estates under his care, and the factories at both Malabar and Tanara are splendidly equipped with the latest types of machinery, one most important part of the plant, the withering machines, being Mr. Bosscha's own invention. The machinery is driven by electricity, the power amounting in the aggregate to 300 h.p. being supplied by two streams, one of which is a quarter of a mile and the other four miles from the factory. Each year the output of the estates approximates 2½ million lb. of tea, comprising five varieties or grades. The European staff numbers twelve, while of native labourers, male and female, some 3,000 are kept constantly employed.

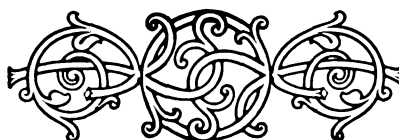
The capital of the Company, of which Messrs. Peet & Co., Batavia, are the financial directors, is G. 1,000,000.

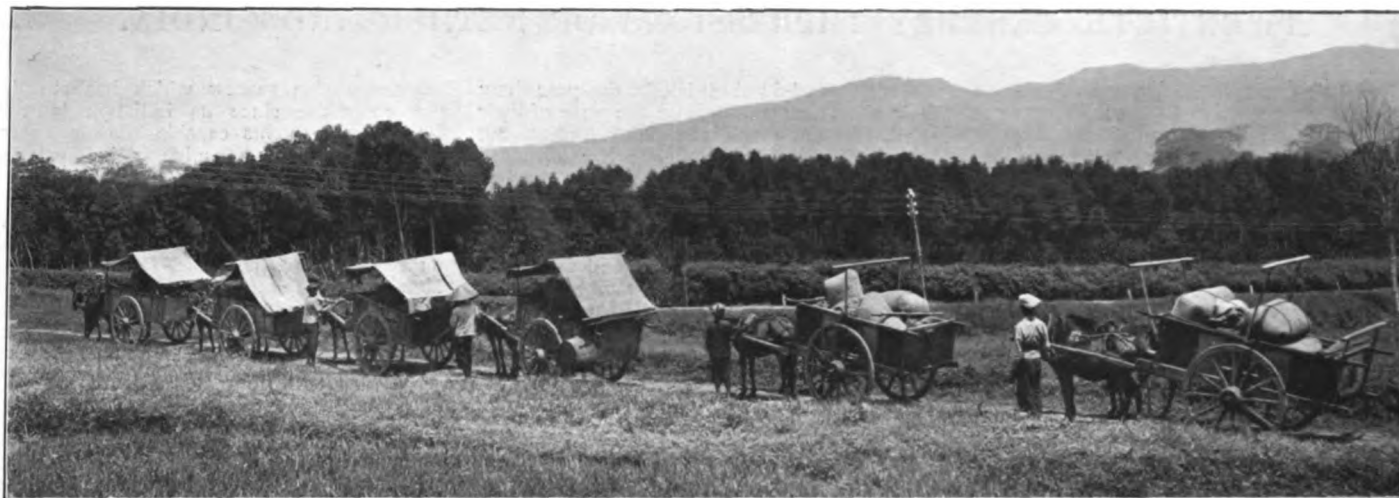
PANJAIAN ESTATE.

SITUATED on the slopes of the Gedeh Mountains twelve miles from Tjibeber, and rising to a height of some 3,500 feet above sea-level, the Panjairan Estate is one of the most picturesque in Java. The registered name of the company owning the property—the West Java Kina Cultuur Maatschappij—is now rather out of date, and as a consequence is apt to create a wrong impression of the nature of the Company's undertaking. For many years the estate was devoted exclusively to the supply of cinchona bark, and a considerable quantity is still grown, but since 1900 the chief attention has been paid to the cultivation of tea, and it is as a tea estate that Panjairan is now regarded.

The estate is about 900 bouws in extent, and produces annually 335,000 lb. of tea, and 50,000 kilos of cinchona. The tea includes Orange Pekoe, Pekoe, Pekoe Souchong, Broken Orange, and Broken Pekoe, all of which varieties find a ready sale in the European markets. The factory was erected in 1905, and has been admirably arranged and equipped. The machinery, which is able to deal with 15,000 lb. of wet leaf a day, is of modern pattern and is worked by electricity, the necessary power being supplied by a water-driven motor of 65 h.p., whilst there is a benzine engine of 50 h.p. in reserve in case of need. The power station is situated at Tjikondang, some three miles from the factory, where the water falls from a height of 40 metres. The manager of the estate, Mr. H. Adam, came to Java fifteen years ago. He has discharged the duties of his present position since 1900. Mr. Winckel has been the assistant manager since 1904.

The Company, which has its headquarters in Amsterdam, is represented in Java by Messrs. Tiedeman and van Kerchem. Its capital is Fl. 300,000.





TRANSPORTING CINCHONA BARK.

CINCHONA.

BY P. VON LEERSUM, Director of the Government Cinchona Plantations.



CINCHONA was used and highly valued in Europe for more than a century before anything was known of the tree which produced the bark. Tradition says that in 1638 Don Juan de Vega, Physician to the Viceroy of Peru, the Duke del Chin-chon, whose wife was suffering from fever, received a quantity of Peruvian bark from Don Juan Lopez de Canizares, the magis-

manner laid the foundation of general and widespread use of the bark, the powder for a long time bearing the name of "pulvis comitisse." According to others the Indians were acquainted with the healing properties of the quinine bark long before the arrival of the Spaniards, and, it is said, they taught the Spaniards the use of it by curing a Spanish priest in the village of Malacotas of an attack of fever.

When the valuable properties of the bark

indiscriminate manner of gathering it in vogue in America, and more especially in the province of Loya, very real fears were entertained that it would be destroyed completely. As a precaution against such a danger, many different methods of preserving the bark were proposed, all of which, however, were found impracticable until it was finally resolved to cultivate the cinchona tree. Dr. Ainslie, in 1818, was the first to call attention to the fact that no attempt had ever been made to plant the cinchona tree in British India. Dr. Forbes Boyle, in his "Illustration of Himalaya Botany" (1839), not only strongly insisted upon the importation of the tree by the Government, but at the same time suggested that the soils of the Neilgherries and Silhet were peculiarly suitable for its cultivation. For many years, Dr. Falconer had advocated the adoption of a similar policy, and yet it was not until 1852 that the British Government wrote to the British Consuls in South America for seeds and plants.

The first proposal to import the cinchona plant into Java was made by Dr. Blume in 1820, but it was not until H. A. Weddell, in 1849, described at great length the state of the cinchona forests in South America, the manner of exploitation and the incalculable harm being done, that the Dutch Government decided to follow Dr. Blume's advice.

The cinchona seeds gathered by Weddell in America were submitted to the care of Houlet, of the Botanical Gardens at Paris. Some of the plants grown there were sent to Dr. Hardy at Hammah, in Algeria, but the young plantation was destroyed by a sirocco. Other of Weddell's seeds were received in London, and in 1853 six of the cultivated plants were forwarded to Calcutta but died on the way. The Dutch Government sent Hasskarl to America to acquire seeds and plants in 1852. His task was not an easy one, for the South Americans naturally wished to maintain their monopoly. However, in December, 1854, two years after leaving Europe, Hasskarl arrived at Batavia



A CLEARING.

trate of the province of Loya, who maintained that it was an invaluable remedy for such an illness. The countess was cured, and, on returning to Spain in 1640, took a supply of the tested remedy with her, and in this

became more generally recognised, the demand for it quickly increased. By 1847 it was necessary to travel eight or often ten days from inhabited regions in order to secure any quantity, and owing to the

with five hundred plants and a good quantity of seeds. Seventy-five plants were found alive upon arriving at Buitenzorg, and these were taken to Tjibodas, on the eastern slope of the Gedeh mountain, 1,429 metres above sea-level. In 1852 Java had obtained possession of one cinchona plant, a *Cinchona calisaya* grown from Weddell's seed. The tree now distinguished by the name of *Cinchona calisaya javanica* springs from this plant and the seeds and plants obtained during the Hasskarl mission.

After the first cinchona plants had been safely transferred from West to East, the Dutch consuls in America never lost sight of the importance of saving a bark with such valuable properties from extinction, and from time to time they forwarded cinchona seeds to Java. What most contributed to rivet attention on the Java cinchona plantations, however, was the quantity of seed bought in London from George Ledger in 1865. George Ledger had received this seed from his brother, Charles Ledger, who travelled in South America buying up cinchona bark from 1848 to 1858. Sir William Hooker, to whom Ledger wished to offer the seeds, had died. His successor, J. D. Hooker, was absent through illness, and C. R. Markham, another likely purchaser, had left for British India a short time before; so that George Ledger, who did not know how or where to dispose of the seed and was afraid that it would spoil if kept any longer and that the trouble and expense incurred in obtaining it would be lost, placed it, on October 17, 1865, at the disposal of the Dutch Minister of the Colonies. There is still a small plantation of trees cultivated from this seed on the Government Cinchona Estate, Tjinjiroean, near Pengalengan, 45 kilometres south of Bandoeng.

SOIL AND CLIMATE.

When the importation of the cinchona tree into Java was decided upon, the conditions

which it had previously flourished. The district whence the Peruvian bark came extends from 19° South latitude to 10° North

metres above the level of the sea, and, according to reports of English travellers the cinchona tree grows best on soil con-



TRANSPLANTING.

latitude. Starting from near Cochabamba, it embraces the Bolivian provinces of La Paz, Larecaya, Caupolican, and Muncas, the Peruvian province of Carabaya, continuing along the eastern slopes of the Andes until the northern boundary of the richly wooded heights of Merida and St. Anna are reached. Every district contains its own species of

taining mica slate and gneiss, covered with an abundance of rich mould (humus). The average temperature in which cinchona thrives best is 16° C. It prefers a cool, temperate and damp climate on the slopes and in the valleys of the mountains. Hasskarl states the cinchona tree will not grow without shade. Both Markham and Spruce, however, report that trees in the open ground are healthier and grow more luxuriantly than those in the forest, and experience has proved them to be correct. The first cinchona seedlings were planted in Java by Teysman at Tjibodas, at a height of about 1,429 metres. The spot was afterwards condemned by Junghuhn, who had chosen one in the vicinity of Pengalengan, on the western slopes of the Malabar. There, at Tjinjiroean, cinchona was planted on December 17, 1855. This region 7° 10' S.L. by 107° 36' E.L. has proved to be the best in Java for the cultivation of cinchona, and now the Government and many private companies have plantations there. The Government plantations, starting at a height of 1,400 metres, rise to 2,000 metres above sea-level. They comprise, at the present day, 1,600 bouws or 912 acres of land, divided into seven establishments. The Government's original intention of opening up plantations in other parts of Java has not been carried into effect. In British India the Government cinchona plantations cover about 804 acres in Madras and 2,000 in Bengal. In Bengal, however, large parts of the estates are unplanted as the soil is not suitable.



A SEED BED.

of its growth were carefully studied in order that its new surroundings might be made to coincide as nearly as possible with those in

cinchona. In Northern Venezuela and Mexico no cinchona is found. The heights at which the tree grows vary from 700 to over 3,000

CINCHONA SPECIES FOUND IN JAVA.

Only the best species of cinchona are now propagated in Java, and as a consequence the number of less valuable kinds is steadily diminishing. The varieties to be propagated and preserved are determined by chemical analysis. The *Cinchona calisaya ledgeriana*

was chosen as factory bark, while the *C. officinalis* and *C. succirubra* produce excellent and most desirable material for pharmaceutical preparations. During recent

in choosing the ground for planting; the force of the wind, for instance, the question of a sufficient labour supply, the necessity for running water, and the possibility of

most suitable for this particular cultivation. If the ground yields well, and the necessary precautions are taken against the washing away of the soil, it may be planted a second and even a third time with cinchona. Sometimes the last crops are as good as the first, but generally they are inferior. For a few years after the second or third time of planting the progress is slow; but as soon as the ground becomes covered and shaded by the growing trees they begin to thrive and do well. The poor growth at the commencement must not, therefore, be attributed to the impoverishment or exhaustion of the soil, but to the ground being unprotected against the sun. Abandoned coffee estates may often be made serviceable for the cultivation of cinchona. When in July, 1856, Junghuhn took upon himself the supervision of the cinchona in Java, he thought that it was necessary to plant the young trees under the shade of other plants. Experience, however, speedily taught him that he was mistaken, and when cinchona was introduced into British India, MacIvor, to whom the Neilgherry plantations were entrusted, objected strongly to this mode of planting. MacIvor prepared his gardens upon bare hills from which all the original bush had been cleared, and when Dr. de Vry, returning to Europe after eight years' study of the cinchona culture in Java, visited the British India gardens, he was so greatly impressed by the fresh and healthy appearance of the plants growing in the open air, which contrasted so favourably with the sickly look of the Java trees, that in 1864 he wrote to the Colonial Minister strongly advising that MacIvor's system of planting the cinchona, without shade, should be given the preference to Junghuhn's system of planting in the heavy shadow of the original damp and thickly wooded forests of West Java.



ORIGINAL LEDGERIANAS (40 YEARS OLD).

years, *C. robusta*, a hybrid plant from *C. officinalis* and *C. succirubra*, has been grown for the latter purpose.

cheap transport for the product. The nature and composition of the soil determine, in a great measure, the growth of the cinchona

CHOICE OF GROUND.

The reports from travellers in South America have contained many exaggerated statements regarding the nature of the climate necessary to the cultivation of the cinchona tree, the height and dampness required being usually represented in excess of what is actually needed. The explanation for this is probably that on the lower, and, consequently, more easily accessible parts of South America, the cinchona trees were destroyed before they had attracted much attention in the outside world, and were afterwards found only in the more humid atmosphere of the higher altitudes. Thus the erroneous idea was formed that the cinchona tree only flourished when enveloped in rain and mist through which the sun's rays could only struggle fitfully. Experience has shown that the cinchona tree may be planted much lower than was originally thought, and, as a matter of fact, is often damaged by too much moisture. In Dodabetta, where the *C. officinalis* grows so well, there are upon an average only 150 rainy days in the year, with an annual fall of not more than 1,200 millimetres. In 1877, when there was a drought in Java from May to November—a most rare occurrence—the old cinchona plantations suffered in no way from it. Indeed, the cinchona tree is one which accommodates itself surprisingly to all climates.

The height best suited to *C. ledgeriana* and *C. succirubra* lies between 1,200 to 1,800 metres above the level of the sea; *C. officinalis* and *C. robusta* flourish on altitudes from 1,800 to 2,200 metres. There are many other considerations, however, besides the height, which have to be taken into account

trees and the quantity of alkaloids found in them; soils which have just been cleared of their original growth are the best, if the ground is at the same time permeable. In Java experience has taught that loose sandy soils with 20 to 30 per cent. of clay are the



DRYING THE BARK IN THE OPEN AIR.

CLEARING THE GROUND.

Before commencing to cut down the larger trees preparatory to clearing the ground for the cultivation of cinchona, all the undergrowth must be removed. The larger trees

are felled to within a height of one or two metres, their stumps being allowed to remain in the ground on account of the difficulty and expense of digging them out. Clearing begins towards the end of the rainy season, so that in the dry season the branches and small trunks can be chopped up and burnt. Formerly, the small wood was placed around the large stumps and set on fire, but so much ash accumulated, and the great heat burnt and charred the ground to such an extent, that it became barren for a long time. Nowadays, the small wood is burnt on the roads, which are laid out directly after clearing the forest, and the felled trunks are placed along the slopes, so that as they gradually rot they become useful manure for the plantation. When clearing the ground, careful attention must be paid to the laying out of the roads, that is to say, to the direction and steepness of the slopes, so as to avoid all unnecessary climbing. They ought never to rise more than 5°. The larger roads generally have a breadth of 2½ metres and the smaller ones 1½.

TERRACES.

All who value the preservation of their property will do well before planting the slopes to lay them out in terraces. Formerly, planting was begun immediately after clearing, but it was very quickly discovered that such a plan was unprofitable. Terraces have been made on sloping ground since 1866. They are constructed chiefly to prevent the washing away of the fertile top soil, their breadth being regulated according to the steepness of the slope. They should not be cut out too deeply, not only because of the increased working expenses, but in order to avoid laying bare the less fertile subsoil. Hard clay ground is more or less unsuitable for cinchona on account of its failure to absorb water quickly enough. The water flows over and forms holes in the sides of the terraces, taking with it much of the best soil. To prevent this, trenches for receiving the water and the soil which is carried with it should be constructed. Such trenches, however, must not be made to correspond with one another, or they would then form a watercourse.

PLANTING.

There has always been a difference of opinion as to the distance which should separate the cinchona trees. At the present time, the system adopted as the most practical for *Ledgeriana* seedlings is to plant them at distances of 3 by 3 feet or 3 by 4 feet Rhl. feet. For grafted plants, distances of 4 by 4 feet will suffice. The benefits derived from planting closely are that the ground is quickly shaded, that weeds cannot live and that gardens are more easily kept clean. In good ground, the large-leaved *Succirubrae* and *Robustae*, if planted 4 feet apart, will shade the ground by the time they are two years old.

Opinions differ also as to the necessity of digging holes in which to plant. Where the ground is rich, loose and well mixed to a good depth, it is unnecessary, but at the same time it will never be found injurious to the trees to plant them in holes. But should the subsoil be poor, as it is sometimes at a depth of from 4 to 5 decimetres, it is not only expedient, but absolutely essential that holes should be made.

The beginning of the rainy season is the best time in which to plant; in November in Java and in April or May in British India.

The work must be concluded a month or two before the beginning of the dry season, or otherwise the young trees might be damaged should a severe drought ensue. It is not advisable to plant during heavy rains, but cloudy weather is favourable. Before taking the plants from the nursery, they are pruned short. Thus treated, they are more easily transported, shoot again quickly, and withstand the following dry season better.

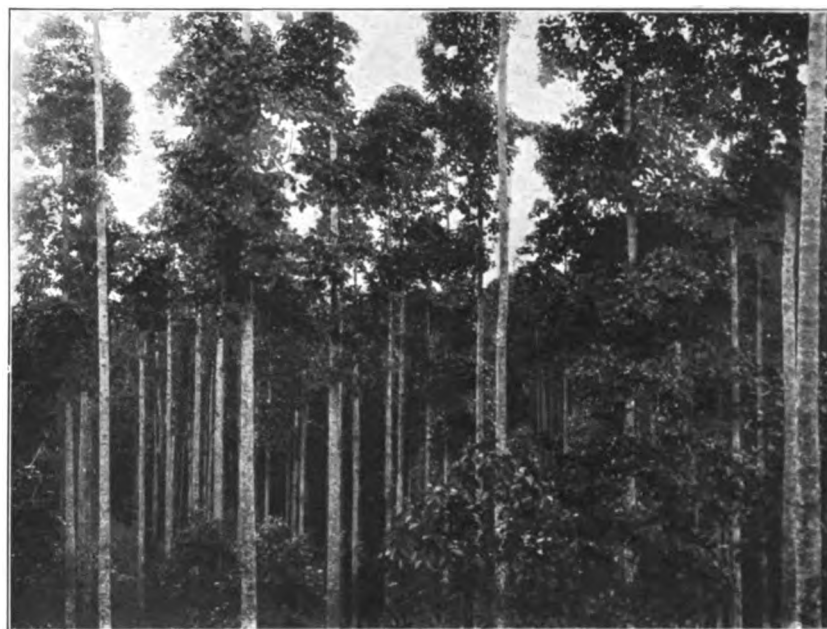
MAINTENANCE OF THE GARDENS.

The newly laid out gardens must be carefully kept clean for a year or two, in any case until the foliage shades the ground. The weeds growing on the sides of the terraces must be cut down. The following methods have met with great success in the Government plantations. Shortly after planting, trenches, about 1 metre in length, 2 decimetres wide and 4 deep, are dug at the back of the terraces, at a distance of about 1 metre. Should the plantation be

over the terraces is advantageous, in so far that it comes into contact with the air and undergoes chemical changes which prove useful to the plants. It also protects the rich top soil over which it is spread from the oftentimes too penetrating rays of the sun. Working the ground to a considerable depth is always rewarded by a luxurious growth of the cinchona tree and a greater production of bark, so that the extra working expenses are more than covered by larger profits.

RAISING PLANTS FROM THE SEED.

The seeds of the Cinchona family are pressed flat together with an oblong kernel, which has a membranous covering. Seeds of different varieties differ in size and shape. For instance, those of the *C. officinalis* are from 4 to 7 millimetres long and from 2 to 3 millimetres wide, *C. ledgeriana* 4½ millimetres long and 1 millimetre wide, *Succirubra* 7 to 10 millimetres long and between 2 to 3 millimetres wide. There are about 1,400,000 *Officinalis*



SUCCIRUBRA (PHARMACEUTICAL) PLANTATIONS (30 YEARS OLD).

three or four years old, the depth is increased to 6 decimetres. These ditches are then used as receptacles for all the weeds. When they have lain open for about six months, the whole terrace is well worked over with a fork. The second year after planting, trenches are made again, this time across the terraces, between the trees, and in the third year they are constructed along the front edge of the terrace. After the third year the first trenches are brought into requisition again. In this manner no vegetable manure is lost, and the gases generated are absorbed by the surrounding soil, while by continually changing the trenches all the ground gets worked over. The loose ground has a greater absorbing capacity than the hard and unworked soil, and in dry weather the moisture in the subsoil rises easily, heavy rain is more quickly absorbed, and the plants are thus given every facility for good and rapid growth. Spreading the subsoil taken from the trenches

seeds in a kilogramme, whereas *Succirubra* seeds number 9,000,000 and *Ledgeriana* 3,500,000 to the kilogramme. The trees are in flower at different times of the year, so that the fruit is not ripe at any given season. If the necessary precautions are taken, Cinchona seed can be kept a considerable time without losing its fertility. Generally speaking, however, the sooner it is planted the better, for it germinates more quickly. The beds in which the seed is to be sown should be made at a spot well protected from the wind. The ground must be thoroughly worked over, and all insects, larvae, rotten wood, everything detrimental to the seed carefully removed. The most convenient size for the beds is a length of 4 metres by a width of 80 centimetres. They are covered with grass (atap) shades, sloping so that they are about 1.85 metres from the ground in front and 0.3 at the back. As soon as the shades are ready, the prepared beds are covered evenly with a 2-centimetre layer of rich vegetable mould

taken from the forest. Four to five grammes of Ledger seed, and 8 grammes of *Succirubra* go to the square metre. It is advisable to use a syringe when watering the beds, as the fine spray does not damage the seed. Excessive moisture is as much to be feared as too little, for if insufficient the seed dries up and does not germinate, and if the beds are kept too damp, fungi spring up and quickly destroy large numbers of the young shoots. The plants are allowed to grow 2 to 3 centimetres high in the seed-beds (which at an altitude of 5,000 feet above the level of the sea they do in a period of six to eight months) before bringing them over to the fern-covered nurseries. The young trees are planted in the nursery at from 10 to 12 centimetres' distance apart.

ARTIFICIAL PROPAGATION.

Cinchona is propagated artificially by grafting, or through small slips. *C. succirubra* and *C. officinalis* take root very easily, but to propagate *C. ledgeriana* and *C. calisaya* from slips or suckers as they are called, is extremely difficult. *C. ledgeriana*, however, being so

an enormous amount of damage to the plantations. The larvae of the coleoptera of the family of *Melolonthidae*, known by the name of "White grub" (koe-oek) feed on the fibres of the roots. The worst enemy of the cinchona tree, however, is found among the *Hemiptera*. In 1868 a disease appeared in the cinchona plantations, the cause of which could not be discovered. It was thought that it was brought about by the sting of an insect. In 1875 Moens found the author of the evil in the *Helopeltis antonii*, which insect had been described in an article from the pen of S. E. Peal, in 1873, as doing considerable damage to the tea shrub. In a work entitled "The Teabug of Assam" written by him, there is to be found an accurate description and drawing of the insect. The results of its sting on the tealeaf and on the leaves of the cinchona tree are analogous. Both the young and old insects feed on the sap of the leaves and the young shoots by pushing their trunks through the outer skin until the juicy tissue is reached. The wounded spot quickly turns brown and ceases to grow. Formerly the insects were caught by women and children, but the insects

been appointed to make a special study of this disease on the Government estates, and to trace its origin. The cancer attacks *Officinalis* and *Ledgeriana*, and sometimes, though rarely, *Succirubra*.

HARVESTING, DRYING AND PACKING.

In South America, the bark is collected in the most primitive manner. The bark-collectors, called *cascarilleros*, are mostly half-wild Indians, who have been accustomed to this work from childhood. They live always in the forest, and have certain, usually erroneous, ideas of the value of the bark. They do not, as a rule, work independently, but serve a company or some merchant, and are sent to work under a more intelligent man, the major-domo. To commence with, practised *cascarilleros* (*diestros* or *practicos*) are sent out to explore the forest to see if it is worth the trouble of working. The cinchona trees are sometimes discovered by the peculiar gloss which appears upon the leaves of certain varieties, and sometimes by the fallen flowers or red leaves lying on the ground. Should the report of the *practicos* be favourable, and their samples good, roads are immediately cut through the forest, and that part of it which has been explored by the *cascarilleros* becomes for the time being their property, and no one else may work thereon. The bark is stripped from the lower portion of the trees, which are then cut down a little above the ground. The outer skin is taken off, the bark divided into strips, and so peeled from the trunk. The bark thus collected is dried in the sun, and the thinner bark, under the influence of the heat, rolls itself into pipes. The thicker bark is pressed with a heavy weight to keep it flat; every day it is spread out in the sun, and in the evening piled up again. When dry, the bark is carried to the camp, which is sometimes fifteen to twenty days' march from where the bark is collected. It is then sorted by the major-domo; bad bark is rejected, and bark that is not absolutely dry is re-dried, after which it is packed in rough woollen sacking and conveyed on mules or by men to the nearest town depôts, where it is sewn up in new hides. In this way it is brought into market, under the name of "Seerons," in parcels of from 50 to 80 kilogrammes. All this work takes place during the dry season, as the life in the bush and the drying of the bark would be impossible during the wet season.

After the importation of the cinchonas into Asia, the question quickly arose as to the best manner of gathering the bark. A choice had to be made between: (1) Rooting the trees out entirely and then planting afresh later on; (2) cutting them down and leaving only the stumps; and (3) partially peeling to see if the bark would grow again. When the plantation is laid out, the trees are planted so close together that after a few years they would be unable to thrive. Nature's remedy would be for the stronger to make room for themselves by ousting the weaker. But this fight for existence cannot occur without damage being done, so the trees which have been retarded in growth are dug out, and the bark which is peeled from them usually forms the principal crop. The time at which this thinning out should take place depends upon the distance at which the trees were planted in the first instance, on the species planted, and on the nature and manner of the cultivation of the soil. Only those trees are taken which are



HARVESTING LEDGERIANA.

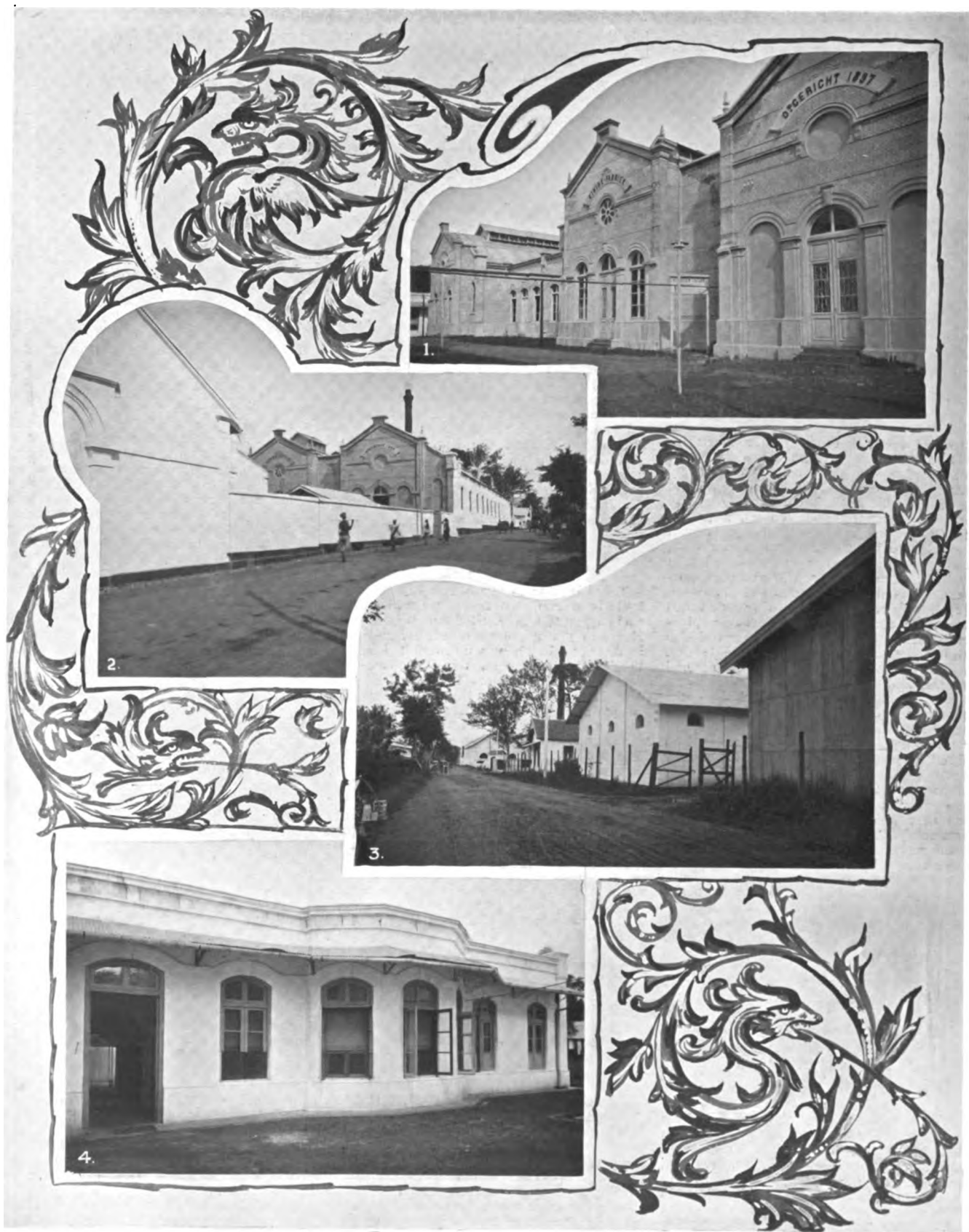
extremely valuable, it is artificially propagated by grafting. Formerly *C. succirubra* stumps were exclusively used for the purpose, because their vigorous roots and the stronger growth and hardiness of the species exercised a favourable influence on the growth of the *C. ledgeriana* grafts. Stumps of the hybrid *C. ledgeriana* and *C. succirubra* and of *C. robusta*, however, are now used with success on the Government estates. As plants raised from seed give more bark and bark of better quality, provided that only good seed is used, it is customary to plant the grafts only in the poorer ground or in the place of weaklings thinned from the older plantations, for where in such plantations openings have been formed by felling sick and weakly trees, it is better to replant with grafts than with plants grown from seeds, because the former do extremely well, while the latter will not thrive.

DAMAGE DONE TO PLANTATIONS.

Cinchona suffers little or no harm from the larger animals, but there are insects which do

are also found in very high trees which are inaccessible, so that this method of endeavouring to do away with the pest has now been abandoned on the Government estates. The best remedy so far known is to hasten the growth of the trees as far as possible, so that the soil quickly becomes shaded with branches and leaves. The soil should also be turned continually. The Dutch India Government have appointed an entomologist to make a special study of the insect, which, so far as is known, has no definite enemies.

Lice, such as the *Aphidinae* and *Coccina*, appear on the cinchona plants, but rarely in such numbers that any lasting damage is done. Caterpillars, however, cause an immense amount of damage. Of diseases, other than those caused by insects, the most destructive is a fungoid growth (mould) known by the name of "djamoer oepas." Plantations of from two to three years old are particularly subject to this, and specially after an attack of *Helopeltis*. Further, there is a disease known as "Cancer," which has been described by King. A botanist has



BANDOENGSCHE KININE FABRIEK (BANDOENG QUININE FACTORY).

1. FRONT VIEW OF FACTORY

2. SIDE VIEW OF FACTORY, LOOKING NORTH.

3. GODOWNS.

4. LABORATORY AND MANAGERS OFFICE

oppressed, and whose tops are well beneath, or threaten to come underneath, the stronger trees. Badly formed, crooked, or sickly plants and hybrids of known bad quality are the first to go. It is better to thin out frequently, taking the trees in small numbers, than to take too many away at one time; but generally it should be remembered that until the trees are thoroughly ripe—which with the *C. ledgeriana* variety is between the sixth and eighth years, after which the bark does not increase its percentage of alkaloids—the process must be adopted very sparingly, and only those trees removed which are greatly hindered in their growth or are of bad quality. By careful treatment thinning out can be continued for years, but eventually becomes impossible. Sometimes, especially with *C. ledgeriana* seedlings, there are many sickly plants. The whole plantation can then be felled, taking the trees out by their roots. This is often done for the purpose of destroying the inferior species of cinchona when recognised, and to make room for better.

The second method of harvesting, that of cutting down to the stumps, was formerly much in vogue both in Java and British India, but has now been generally given up; so also has the method of partially peeling or scraping which the trees could not withstand. Peeling the bark is usually done with horn or bone knives, after the branches or trunks have been beaten with a wooden tool. If steel knives are used, shavings of the wood often get mixed with the bark. The bark for pharmaceutical purposes, that of the *C. succirubra* and *C. robusta*, is cut into pipes, the length of which varies from a quarter to 1 metre. These pipes must not be too wide or they roll too tightly together and are troublesome to dry. In drying, the edges of the strip bend inwards, and in this way form a cylinder. The bark which cannot be cut into the above-mentioned lengths is sorted apart, and goes under the name of "broken pipes" or "shavings." The bark of the root is packed in pieces with or without the outer skin.

Pipes, broken pipes, which must be free from quinine dust, are packed in cases, each case holding on an average 75 kilogrammes. The bark which is sold for the manufacture of quinine, and valued by analysis is stamped to powder or chips, and packed in bales averaging 100 kilos. Experiments have been made in British India and in Java in order to find the period of the year when the bark has the highest percentage of alkaloid, so that harvesting might be done at the most profitable season. The differences, however, if there are any, are so insignificant that harvesting may proceed at any time with equally satisfactory results.

With regard to drying the bark, Broughton admits that the disadvantages resulting from sun drying are not so important as to deter from following that method, while analyses made in Java show that the disadvantages, if any, are infinitesimal. There is no difference between bark pipes dried in the sun at a temperature of 100°C. and those dried in the shadow. Bark dried at a temperature of 105°C. and higher, however, loses a certain percentage of alkaloids. In the high mountains sun-drying is not always possible, and artificial warmth has to be used. Every cinchona estate, therefore, has a drying machine, the Davidson Sirocco answering the purpose splendidly. It is advisable to dry the freshly harvested bark in the open air, however, before it goes

into the Sirocco, and, to do this, long square trays are used which are fitted on rails, so that at night, or should it rain, they can be easily run under a shed.

CHEMICAL PROPERTIES OF CINCHONA.

When speaking of the elements contained in the cinchona bark, attention is naturally first given to the alkaloids present, for although these are relatively only a small fraction of the whole, it is their influence that makes cinchona such an excellent preventive against fever. The principal alkaloids are quinine, quinidine, cinchonine, cinchonidine, kinamine, and konkinamine, while the rare ones, not so well known are: paricine, aricine, paytine, and homo-quinine. The alkaloids are divided irregularly over the plants. The largest quantities are found in the bark of the trunk and the roots, and little is present in either the wood, leaves, flowers, fruit or seed. The outer layers of the bark, the crust, are richer in alkaloid than those directly beneath it, which are made up of fibre. Besides the crystallised alkaloids, there is always an amount of "amorph alkaloid" to be found in the bark, but it is not always of the same nature. The alkaloids are connected with kina-acid, kina-tannic, and quinoic-acid.

COMMERCE.

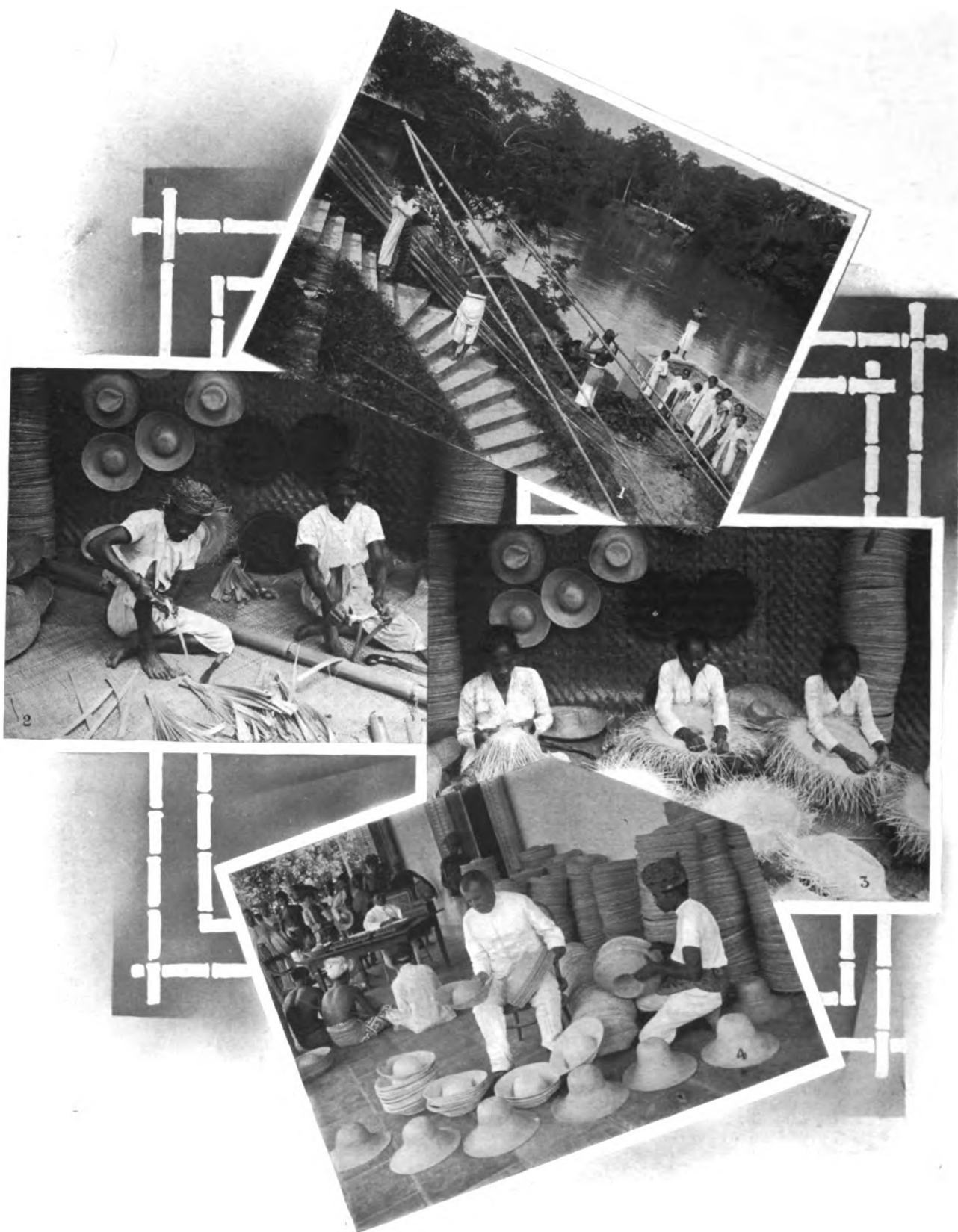
There is little to say concerning the early trade in cinchona bark. It was sold in very small quantities in Amsterdam, Brussels and Rome in the seventeenth century, and later in Antwerp, but it was not until the end of the eighteenth century that the bark was received in any quantity from Peru, Bolivia and New Granada, and a lively exchange maintained between Spain and England. Between 1789 and 1793, according to Relph, England and Scotland imported fully 30,000 kilos. of bark. The export from Carthagena amounted, in 1806, to about 600,000 kilos., and from Bolivia, in 1834, to 900,000. The war in New Granada, and afterwards the war which Peru and Bolivia carried on with Chile, caused a scarcity in cinchona bark between 1873 and 1878, and prices rose accordingly. This led to the exploitation of the hitherto unexplored forests in South America, which resulted in the discovery of the *China cuprea*, a tree of the Remya species whose compact and comparatively thick bark gives from 120 to 130 per cent. of quinine. This variety of tree was also found in great numbers in New Granada, at Bucaramanga, in 1880. It flourishes plentifully on the La Paz chain of mountains. The high prices made the collection of this bark an exceedingly profitable undertaking, and there was an enormous increase in the quantities exported. Since then the cultivation of cinchona has made great progress in Java, and in 1908 8,226,918 kilos were offered for sale in Amsterdam, as against 2,073,959 in 1889. Moreover, the percentage of quinine rose from 4.82 in 1889 to 6.30 in 1908. In London, which also has its cinchona market, 32,258 colli were sold in 1893, as against 2,519 in 1908. This decrease is due to low prices having closed various sources of supply in South America, the heavy cost of transport making the trade unprofitable. There are different methods of buying cinchona. The druggists and apothecaries judge by the appearance of the bark only. They do not trouble about the percentage of quinine it

may contain. They buy bark which, without a large percentage of quinine, still contains sufficient quantities of other alkaloids, coupled with tannin and quinoic-acid, to give their preparations the required quality. Factory bark, however, is sold only for the percentage of alkaloids which it contains, and the first consideration is the quantity of quinine. The price of quinine sulphuricum regulates the value of the bark. The manufacturer pays for every per cent. of quinine contained in a kilogramme of bark, as much as 1 per cent. of the actual price of one kilogramme of sulphuric acid, so that, providing the price of a kilogramme of sulphuric acid is G. 20, the manufacturer will pay 80 cents for bark containing 4 per cent. of quinine. This method of gauging the prices cannot always be absolutely relied upon, but it is the one generally adopted. Only 6 or 8 per cent. of the bark is of any value to the quinine manufacturer, and naturally greater profits are realised when the cost of transport is saved by extracting the alkaloids where the bark is collected. In South America there were difficulties in the way of doing this which do not arise in the same measure in Asia. In May, 1873, the chemist, C. H. Wood, was appointed to the cinchona plantation in Bengal for the express purpose of once again trying to prepare the alkaloids on the spot: the previous attempt had been made a few years before with bark grown in Sikkim. Wood's method is still in vogue in Bengal and in Kungbee, but it is not pure quinine that is prepared, but an alkaloid containing amorph, a yellowish white powder known by the name of "Cinchona febrifuge," which is sold through the post offices to the natives at a moderate price. Several attempts were made to prepare the bark in Java, but they were unsuccessful until in 1896 a private company was formed for this purpose at Bandoeng. The products of this company's factory will now compete with any on the market, and it is to be hoped that the Dutch Government will follow the example of the British, and speedily bring so valuable a medicine as quinine within easy reach of the poorest natives.

BANDOENG QUININE FACTORY.

THE Company to which Mr. P. van Leersum refers in his article on "Cinchona" as having very successfully undertaken the manufacture of quinine at Bandoeng was established in 1896 with a capital of FL. 700,000. Since the factory was opened the methods of working have been greatly improved, and the output increased. At the present time the Company manufactures about 60,000 kilos of sulphate of quinine yearly, which constitutes one of the largest productions of any establishment existing. The cinchona bark treated comes from both Government and private cinchona plantations. The quinine salts are sold by auction at Batavia, and thence distributed all over the world. Photographs of the factory are reproduced, but the processes employed inside the buildings for the preparation of the bark are known only to a few. From the commencement, the financial results of the enterprise have been highly satisfactory. The dividends on the capital have been as follows: 1906, 9 per cent.; 1907, 9 per cent.; 1908, 10 per cent.

The Company's headquarters are at Semarang. The managing director is Mr. C. W. Baron van Heeckeren, and the director of the technical work, Mr. S. Camphuis. The direction is in the hands of the Samarangsche Administratie Maatschappij.



MANUFACTURE OF BAMBOO HATS.

1. TRANSPORTING THE BAMBOO POLES.

2. SPLITTING THE BAMBOO.

3. TWISTING THE HATS.

4. SELECTING THE HATS BEFORE PACKING.



BAS-RELIEFS, BOROBUDUR.

BAMBOO HATS.



THE art of manufacturing hats from bamboo was introduced into Java by a Chinaman. Coming from Manila about half a century ago he settled in Tangerang, near Batavia.

Twisting hats out of bamboo was the mode he adopted of obtaining a livelihood, and, with the enterprise and commercial instinct so characteristic of his race, he soon gathered a few natives round him and became a master man. The natives are endowed with a remarkable patience and a great ability for twisting work, and from the beginning the hats had the greatest vogue. They were sold to tourists, who took them home as curiosities of Javanese work, while the officers and crews of the different steamers trading between Europe and Netherlands India, especially the officers and crews of French steamers, purchased them in large numbers in order to sell them again at double prices. Many of these hats purchased for two guilders and fifty cents in Batavia were sold for twelve francs in Marseilles, resold at Bordeaux for thirty francs and again in Paris for eighty francs. Now the demand for them is so great that the industry, started in so modest a fashion a comparatively short time ago, finds profitable employment for over 60,000 men.

At the Paris Exhibition of 1889 a considerable amount of interest was manifested in the Javanese Kampong, which showed in the foreground a whole family of native hat manufacturers busily engaged at their work. The exhibit was arranged by Mr. Leduc, of Paris, and Mr. Petitjean, of Java. It is to Mr. Petitjean that we owe the following details regarding the growth of the trade.

In the early years, the competition among those wishing to purchase native-made hats was very considerable indeed, and as a result the natives reaped a rich harvest for their labours. Moreover, hats of finer and finer quality were required, until at last some of the hats produced were as supple and light as silk. As the trade increased, however, large French firms sent their representatives to buy

in wholesale quantities, and while the better quality hats realised between two and a half and three guilders for a long time to come, the greatest demand was for the cheapest varieties, and it was consequently to the production of these that manufacturers paid their chief attention.

Mr. Petitjean started to export hats in 1876; since 1882 his trade has increased enormously, and he has shipped hundreds of cargoes to Europe. Other French firms have started branches in Java, and Dutch, English, and German firms also now take part in the trade. The exports go chiefly to France, England, Italy, Greece, Germany and Austria, but of recent years there has been an increasing demand for these products from the United States and Australia. In the European and United States trade, bamboo hats are called Rotins (cane hats), though it is well known they are not made of cane. The cane hats are made at Borneo (Bandjermasin), and are extraordinarily strong and generally remarkably fine. Pandanus hats in France are sometimes referred to as Bowens, a corruption of the name of the first proprietor of the estate where these grass hats were first twisted. Sometimes they are called "Peanit" hats, a corruption of the name of Mr. Petitjean.

It is interesting to watch the hats being made. The natives use as tools simply a knife, a round piece of wood, a flat-headed nail, and a wooden board with a hole in it, equal in size to the crown of a hat. The bamboo used is the variety termed "bamboo tali" or rope bamboo. It is supple and not so fragile as other varieties, bleaches more easily, and is not so readily attacked by insects. It is used before the branches bud, and has to be handled very carefully, as any friction would quickly hurt the peel and cause a red spot to appear. The bamboos floated down the river are only for the manufacture of inferior qualities of hat. The first thing that has to be done with the bamboo is to make it clean. The green hard pelt is taken away with the knife, and the bamboo, thus denuded, is exposed to

the dew during night time and to the heat of the sun during the day for twenty-four to forty-eight hours. It is then cut into pieces at each knot, and each of these pieces is split into blades 3 to 4 inches broad. Only the hard part, about 2 inches thick, is used, the inside being thrown away. An incision of about a quarter centimetre deep is made at one of the ends of a blade, so that with light bending a ribbon loosens itself; other incisions are then made until five or six such ribbons are freed. These are split again into tapes as fine as may be necessary for the quality of hats required, and by constant scraping with the knife are made supple and brightened and given a touch like silk. All this preliminary work, such as cutting the bamboo, splitting it and preparing the tapes is done by men. Women and children generally do the weaving, and there are some little children, only five years of age, who are adepts in the art. A woman can twist a hat of coarse quality, which has a market value of from 12 to 15 cents, in two days. Many of the hats necessitate a week of steady effort before they are finished, while extra fine hats take sometimes two to three months to complete. These latter, however, hold no place in the ordinary trade, and are sold only as specimens of beautiful workmanship. All hats are made double for two reasons. In the first place it is essential to make them stiff enough for everyday use, and again during the twisting it is often necessary to add tapes, the ends of which jut out into the interior. It would be impossible to cut the ends of these in a hat of single thickness without leaving holes and giving the article generally a poor and unfinished appearance.

The hats are sold to the exporters before the brims are fastened. They bleach them, have the brims twisted together, and then deliver them to the milliners to be trimmed according to need or fashion. Most of the hats for export are made in the neighbourhood of Tangerang and in the residency of Bantam. The hats manufactured in other districts are generally for the local market only.



MOUNT RAOEN (10,850 ft.) EAST JAVA.

THE ISLAND OF JAVA.

IN these days of world-tours there are few places considered so remote, so inaccessible, that they are not visited by thousands who wish to venture beyond the beaten tracks of travel.

The enormous extension of commercial development throughout the once stagnant East draws the peoples of the distant Western nations in rapidly increasing numbers, and thus the island of Java, the chief of the Dutch possessions in the East Indies, is becoming better known to the tourist as well as to the man of business impressed by the industrial and commercial capabilities of the future in this region.

Lying outside the current of the world's ocean traffic, Java in the past has not been visited so extensively and made known to the world as it deserves to be. Of recent years, however, this tropical island of surpassing natural loveliness and abounding human interest has attracted greater attention; and a relaxation of the restrictions formerly imposed by the Government upon visitors of other than Dutch nationality, has opened the way for tourists and investigators. By the Nederland Royal Mail Line of steamers it is possible to voyage from Europe to Java, remain in the island 16 days, and return to the starting-point, within a period of 60 days. The voyage from Genoa to Batavia occupies twenty-two days; and the same place is accessible from Singapore in about thirty-six hours, being some 500 miles south of the great shipping port of the Straits Settlements.

The island of Java is some 600 miles long and has a maximum width of 130 miles, which diminishes to 55 miles at the narrowest point. It is bounded on the north by the Java Sea and on the south by the Indian Ocean; and is 105° 34' and 114° 34' east longitude, the latitudinal bearing being between 6 and 9 degrees south of the line. As it lies about the same distance south of the equator as Ceylon is north of the line, it possesses much the same climate as that island of "spicy breezes," and, consequently, has a similar wealth of tropical growth and soil products. Like Ceylon, Java formerly produced and

exported coffee in large volume; but equally with the plantations of the British Colony were those of this Dutch possession devastated by the same ruinous blight. Also, as in Ceylon, many of the coffee plantations in Java were, as a result, converted to the cultivation of the tea bush. Tea plants and seeds were introduced into Java from Japan as early as 1826. But tea plantations were not elevated into soundly profitable ventures until the Assam plant was substituted for that obtained from Japan, and later from China, in the early days of this product. Sugar is also largely grown, principally in the eastern region of the island, and exported, and rice is cultivated everywhere by the natives for their own consumption; while the useful and graceful cocoanut palm flourishes luxuriantly in the low-lying districts, and delicious fruits, notably bananas and mangosteens, grow abundantly. Maize is the principal cereal raised. Mineral oil has been found; mining for both gold and silver promises to become a feature among the industries of the island. So fertile is the soil, and so extensively is agriculture practised, there is hardly a part of its area of 51,350 square miles which is not cultivated with success. In fact, in addition to being a land of beauty, Java is also a land of plenty, fully deserving the title of "The Garden of the East" bestowed upon it by Miss Scidmore, the well-known American traveller and writer. It supports with ease its large population of over thirty millions.

As may be seen in the statistics given in the section of this volume dealing with "Population," the inhabitants of Java are of diverse nationalities. A large number of Chinese are settled in the country, besides the Dutch Government officials and planter community; and even the people of Malay origin, who form the bulk of the population, differ in characteristics according to the part of the island they inhabit. In addition, there are the Arabians, representing the Mahomedan conquest of long ago. In and about the capital city of Batavia, situated at the western end of Java, and having Tandjong Priok for its port, many different types will be noticed, the Dutch, though compara-

tively few in number, forming always, of course, the dominating factor. Of other Europeans there are hardly any resident in this distant possession of the Netherlands. Unlike the Achinese in the neighbouring island of Sumatra, the aboriginals of Java give no trouble to their rulers. In whatever part they are encountered, the natives of the country are invariably found to be agreeable, easy-going, and eager to please. Indeed, it has been charged against them, notably by Miss Scidmore, that they are too servile. To her, imbued with the spirit of American independence, the somewhat cringing manner of this subject race toward their superiors was distasteful in the extreme. Again and again in her book on "Java" she animadverts on the subject, finally remarking, *apropos* of the continual bowing and crouching and crawling of servants in the presence of their employers and the guests: "One never gets used to this abasement of the *dadok* (the native term for this servile attitude), often as he may see it; and after the first absurdity and humour of it wears off, it is irritating and humiliating to see one human being thus belittle himself before another." The Javanese are distinguished by no other offensive traits. They are not, like so many servile people, inclined to revenge themselves for abject humility before their superiors by assuming harsh dominance over those of their own status. Out of the presence, they revert to a natural and easy carriage and manner; and they are affectionate in their family relationships, as well as generally peace-loving. Their national characteristics are what may be expected from the circumstances of their position as a subject people. The Dutch rule has ever been rigorous in exacting obedience in form as well as in fact, in manner as well as in deed; and they have endured this stern sway without, in recent times, ever disputing it. The visitor to Java who hails from any of the leading countries of the world cannot fail to notice that formality is rigidly observed throughout the island in the relationships of the members of one race to those of another; and this is a characteristic of Eastern life generally.

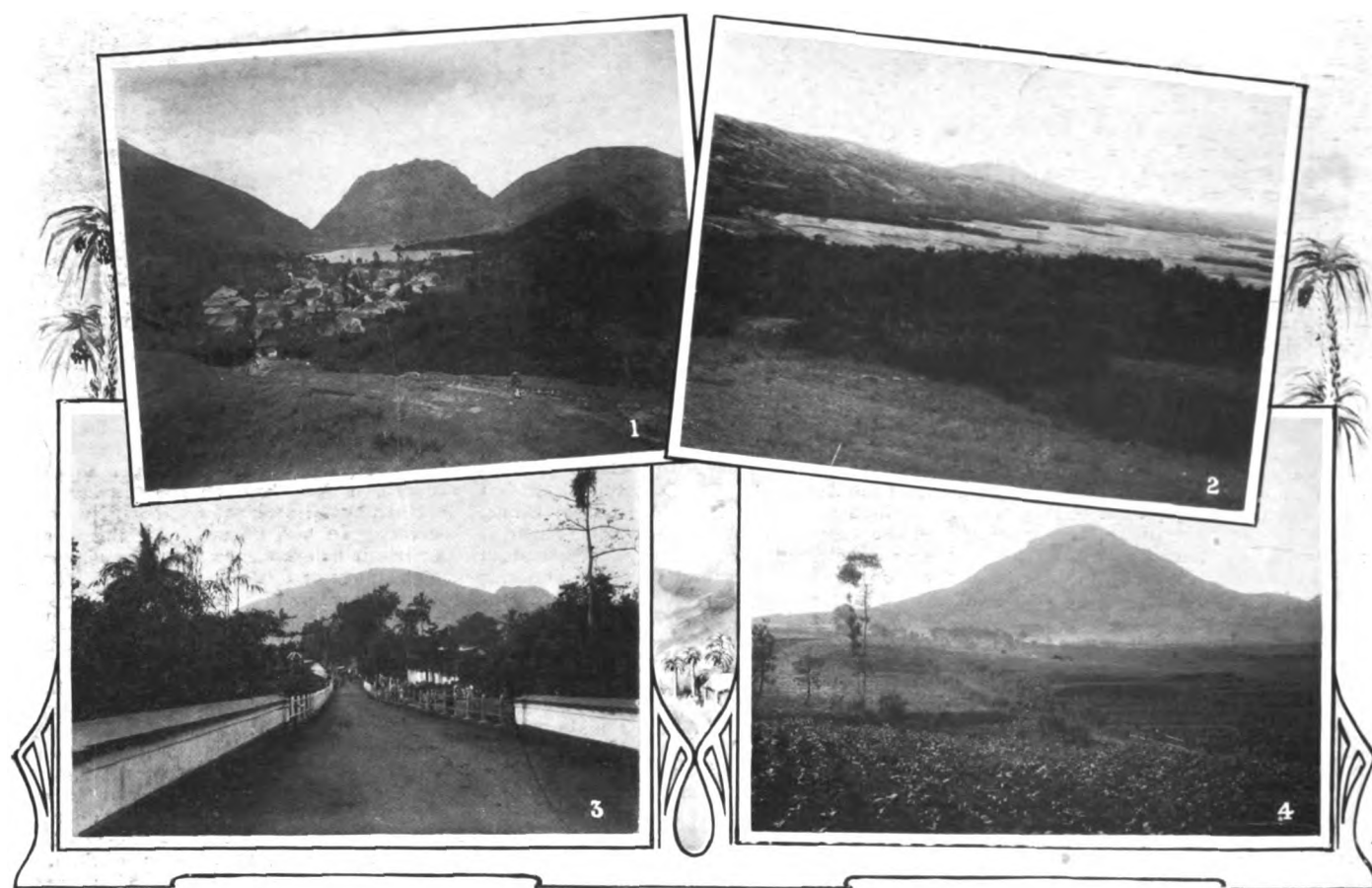
where totally diverse races jostle one another in promiscuous and picturesque medley. Their generally happy nature the Javanese derive from the prevailing pleasant conditions of existence in their ever-smiling land of sunshine and fruitfulness.

But while descanting on the smiling and peaceful aspect of the island, it may not be forgotten that Java is situated on or about "one of the great fissures of the earth's crust," and that some fifty of its mountains are volcanoes, several of which have been terribly destructive at different times in the past. In the Straits of Sunda, which divide Java at its western extremity from Sumatra, is situated the islet of Krakatau (or Krakatoa), one half of which was torn away and disappeared in the earthquake of August, 1883, the most tremendous eruption of the last century, the world-wide effects of which were evident in ex-

volcanic soil in the neighbourhood of these "fire-mountains" without any sign of dread.

The climate, albeit tropical, is exhilarating on the highlands, of which the extent is considerable throughout Java. But the atmosphere of the low-lying plains and coastal strips will be found close and oppressive; and in some of these parts the humid air, in a prevailing temperature of from 85 up to 100 degrees Fahrenheit, is fraught with malaria. Batavia, the capital city, for instance, will be found by Europeans too stifling for a place of residence in the height of summer (July and August). At that time of the year the well-to-do classes take refuge at Buitenzorg, forty miles inland and some seven hundred to eight hundred feet above sea-level, where the climate is clear and bracing. The journey to this delightful spot is accom-

A feature of the principal towns of Java is the beautiful avenues, the main streets being lined by towering trees, with abundant foliage meeting overhead. These towns also possess first-rate hotels, claimed to be the best in the Orient; and the houses of the leading residents are mostly set in pleasant gardens. The more modern portion of Batavia is finely laid out in this style; while the older part, nearer the port of Tandjong Priok, with its canals and crowded bazaars and narrow streets, presents picturesque scenes of native life. The upper, and more modern, town, known as Weltevreden, contains the principal buildings, first and foremost among which as a place to visit is the Museum of the Batavian Society of Arts and Sciences, a treasure house of costly and beautiful relics and ethnological specimens of great interest and value.

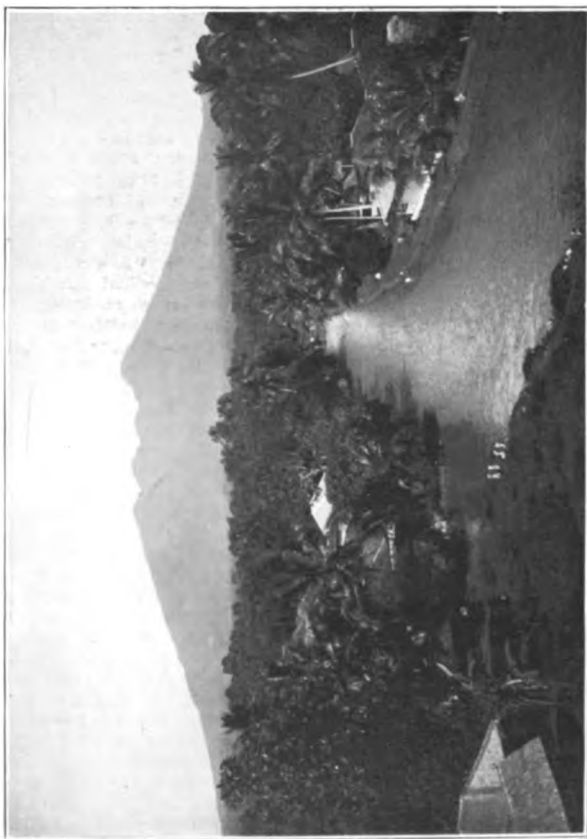


1. TELAGA TJEBONG (LAKE IN THE HIGHEST VILLAGE (7,000 FEET). 2. PLAIN OF AMBARAWA.
3. VILLAGE OF OENGARAN (MOUNT OENGARAN IN BACKGROUND). 4. THE VOLCANO SINDORO NEAR WONOSOBO.

traordinary atmospheric conditions within the memory of others besides scientific observers. Some of the volcanoes of Java still give signs of activity. The crater of the great mountain of Papandajang, near Garoet, in the west, on a range sixteen miles long and six broad, still steams and rumbles ominously, pools of boiling sulphur bubbling incessantly on its five-acre floor. At the eastern end of the island, near Tosari, a famous mountain health-resort, is the highest volcanic peak of Java, the Seméroe, with its bare lava cone standing out in impressive grandeur. In this volcanic district of the Teng'ger Plateau is also the great crater of the Bromo, with several smoking cones rising from a level "sand-sea." Yet the natives cultivate the fertile

plished by railway in something over an hour, and the tropical scenery through which the train passes affords a double panorama of exquisite beauty. Buitenzorg is the principal seat of the Governor-General, who goes to the capital only on State occasions. Here many of the chief Government officials and leading commercial men of Batavia have summer residences. Besides the salubrity of the air, the chief attraction of this resort is the public botanical garden, where successive curators of world-wide reputation have gathered together the most magnificent collection of tropical trees, plants, and flowers, arranged scientifically in family groups and forming a perfect paradise to the arboriculturist and student of botany.

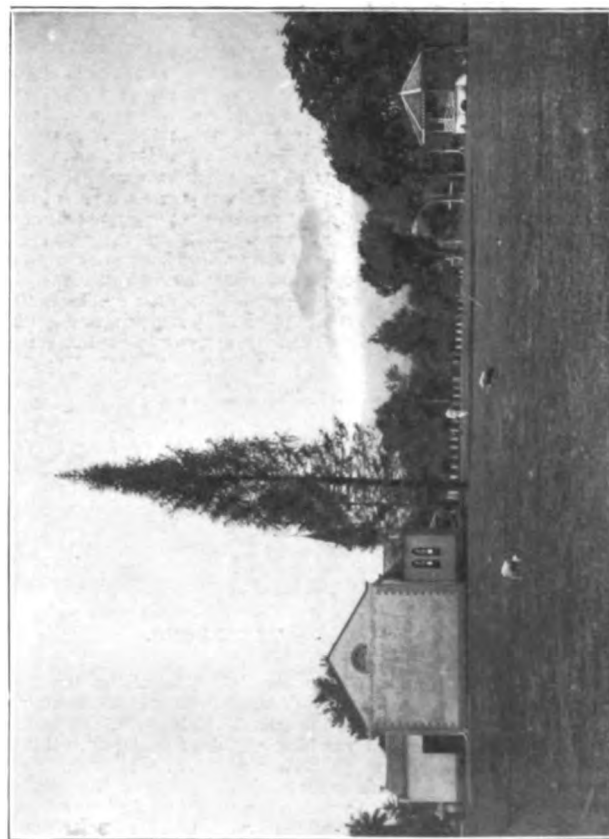
Batavia, which was founded in 1619, as the capital of the Dutch Indian Colonies, on the site of an earlier city called Jakatra, has a population of about one hundred and forty thousand souls, typical of the country and consisting principally of the friendly, little, bare-foot, betel-chewing natives, attired in the national sarong—a strip of highly ornamented cotton cloth wound tightly round the hips so as to form a skirt—and pursuing the simple life in primitive and pleasant fashion in the sunshine and warmth of the tropics. Their daily "pasars" (markets) of fruit, rice and native fabrics afford charming scenes of life, colour, and general gay contentment. The pleasant, smiling features, soft voices, and gentle manners of the Javanese, with their



MOUNT SALAK FROM BUITENZORG.



BROMO CRATER.



SQUARE AT SALATIGA.



KAWAH IDJEN (GREEN LAKE) ON THE IDJEN PLATEAU.

love of poetry, flowers, perfumes, and children, remind the traveller of their distant cousins the Japanese. Since the Mahomedan conquest, towards the close of the fifteenth century, the faith of the Prophet has been the recognised creed of the Javanese. But this easy-going people take their religion, as everything else, with a happy carelessness, and have never accepted the stern tenets of the Mahomedan in their strictness. Nature-lovers from infancy, they are incapable of even comprehending stiff dogma.

cation is maintained with Borneo and Hongkong and Singapore in the north, and the Celebes, Timor, and the other islands of the east and south. This busy commercial centre may well be termed the Liverpool of Java. Other ports on the north coast are Semarang and Cheribon, and the principal shipping centre on the south coast is Tjilatjap.

Important inland towns are Soerakarta, generally called Solo, and Djocjakarta, contracted by the liquid-spoken Javanese into Djoja. Solo, situated on the trunk railway

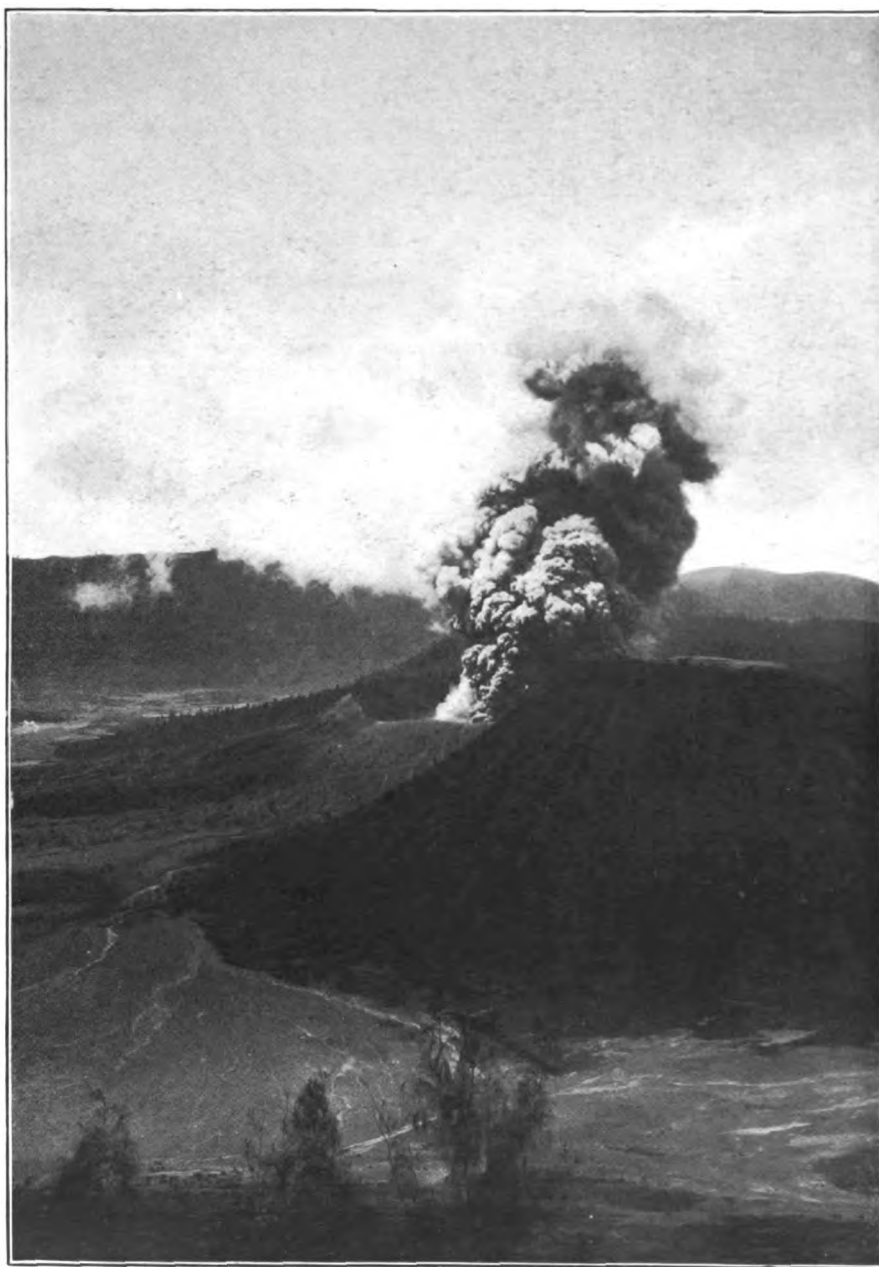
greatness, all the real power being in the hands of the Dutch Resident. Precisely similar are the circumstances at Djocjakarta, not far distant, where another Sultan keeps up a splendid establishment and a retinue comprising 15,000 persons, including a military bodyguard. All the lesser native princes and regents throughout Java are similarly permitted the outward semblance of authority. Under Dutch rule, native affairs are administered with wise discretion and tactfulness.

Both Solo and Djocja are large and populous towns, healthy and well laid out, with wide tree-shaded streets. They are also centres of lavish and gorgeous entertainments given by the two Sultans.

On the plains in the vicinity of Djocja are the magnificent remains of the famous Buddhist temples of Bôro-Budur and Mendoet, also the interesting ruins of Hindu temples at Prambanan. The Bôro-Budur is the most splendid and remarkable, as well as probably the largest, monument of Buddhism ever erected. It covers almost the same area as the Great Pyramid of Gizeh, in Egypt, the immense edifice rising in successive terraces to a central dagoba 100 feet in height. The whole structure is most lavishly ornamented with statues (there are 500 of Buddha, showing the divinity in different poses and variously employed) and richly adorned with bas-reliefs. The exquisite pyramidal temple of Chandi Mendoet near by was erected at a somewhat later date, and consequently shows a progressive development of the arts employed at the Bôro-Budur, which monument is taken to date from about the seventh century of the Christian era. Not far from Djocja are ruins of some four hundred other temples, also the traces of a forgotten city of larger dimensions than any now existing on the island. From these historic spots many relics in bronze, silver and gold have been obtained, some of which are preserved in the Museum at Batavia. An exhaustive description of the magnificent archaeological remains which form, after the natural beauty and soft charm of Java, the chief attraction of the island, is given in another part of this volume, under the head of archaeology.

One has not to penetrate far into the island before becoming steeped in the prevailing charm of its scenic beauty; and the further the traveller proceeds in any direction the stronger will grow the temptation to linger at the many places on the way which invite him to bask in the delicious tropical sunshine, feasting his eyes the while on an environment possessing every element of natural enchantment—wooded slope, calm or lightly ruffled lake, wide stretches of ricefields, and highly cultivated tea gardens spread over the gently undulating lowlands and the hillsides, all combining in a harmonious picture of a smiling, fruitful land under a serenely sunny sky.

The general aspect of the varied and beautiful vegetation of the country as it strikes the visitor is well described in the following passage from an account by Mr. Thomas H. Reid of a holiday tour in the island: "The road is fringed by a variety of trees and plants, which only a botanist would attempt to describe. Colour is given to this fringe by the magenta bougainvillea, the red hibiscus, the pale blue convolvulus, the variegated crotons, and the orange and red of the Lantana; and at places the Poinsettia provides a predominating red-head to the hedge-like greenery. Palms and tree ferns and feathery clumps of young bamboo are called to aid by Nature's landscape gardener; but they do not shut out the verdure-clad ravines that mark a



THE BROMO.

The second town of importance in Java is Sourabaya, the commercial capital, situated on the coast at the eastern end of the island. A trunk railway, with several ramifications, connects the two main centres (Batavia and Sourabaya) and affords intercommunication throughout the country. Sourabaya is a busy and populous place, a military and naval depôt, and a seaport from which communi-

line about two-thirds of the distance from Batavia to Sourabaya, is the very heart of old Java, the centre of the ancient kingdom of Mataram. It is the capital of the Sultanate of Soerakarta, and here the Soosoohoonan (Sultan), the descendant of the old-time Mahomedan rulers, is still allowed to maintain his court with great ceremony and state. But he is only a relic or shadow of former



1. TYPICAL MOUNTAIN SCENERY. 2. NATIVE VILLAGE NEAR TOSARI. 3. THE ZANDSEE (SEA OF SAND—THE BOTTOM OF A GIGANTIC CRATER). 4. WATERFALL NEAR TOSARI.

waterway or the terraced ricefields which climb almost to the top of the highest summits." And describing the lovely vegetation surrounding the Telega Warna (colour-changing lake), near Sindanglaya, the same author says: "Ferns and bracken cover the hillside, polliopods predominating, orchids cling to tree stems, and, higher up, the curious nest-fern and various forms of plant life attract attention. Tree is woven to tree by a network of mighty lianas. The lake itself," this writer continues, "lies in what must have been the crater in the prehistoric period of activity of Megamendoeng. It is 100 metres (130 yards) in width, circular in shape, and about 100 fathoms deep. Fish are found in the lake, and they are regarded with veneration by the natives. The steepness of the heavily wooded wall that rises hundreds of feet sheer round three sides,

latter predominating." In the perennial summer of the hill country there are no fixed seasons for the various phases of tea cultivation and treatment as elsewhere. Picking, curing, firing, and packing are carried on all the year. The seedling matures two years from the time of being planted, and the leaves are then gathered. Women are mainly employed in the business of picking, and their bobbing figures in their bright jackets and sarongs with their bundles on their heads as they pass round and among the amazingly regular rows of green bushes and then with their burdens file off through avenues of palm and tamarind to the neighbouring factory, form an attractive picture of movement and colour. The long, red-tiled factories, where the leaf is dried, sifted, sorted, packed, and labelled, combine harmoniously with the rest

have many racial features and characteristics in common with the latter, though the Sundanese are, as a race, somewhat taller and slimmer than their neighbours in the central parts. They live in "ornamental little fancy baskets of houses," as Miss Scidmore terms them, picturesquely ensconced in groves of tall tamarinds and kanari trees. Throughout the plantation districts, the traveller will come upon small roadside villages, centres of sunny existence, consisting of collections of these neat little nipa (palm-leaf) huts, in which the native denizens of this favoured land dwell in ideal contentment. Of the villagers, Mr. Thomas H. Reid, in his interesting account of "A Holiday Trip in Java," says: "Only occasionally does one see a really beautiful face; but there is a pretty shyness such as one seldom sees on the roads of a European country." This



PANORAMIC VIEW OF THE BROMO AND SURROUNDING MOUNTAINS.

reminds one of the geyser-studded old crater of Unzen, in the island of Kyushiu, in Japan." This is one only of many beauty spots, varied in aspect, but all showing the rich luxuriance of tropical verdure and flower-growths, to be discovered in a tour through Java. A full technical account of the flora of the island will be found in another part of this volume.

In her book on Java, to which reference has already been made, Miss Scidmore gives a vivaciously informative account of life and methods on the tea plantations, which are mostly situated in the Preanger Regencies in the western portion of the island. "For mile after mile," she writes, "one could walk in direct line between soldierly files of tea-bushes, Chinese, Assam, and hybrids, the

of the colour scheme of the scenery; and the premises, inside and outside, are specklessly clean. Perfect orderliness prevails throughout the various successive processes which are carried on swiftly and deftly. When the cases have been packed and labelled, they are carted to the railway station and forwarded thence to Batavia for shipment. The coffee bean is also extensively cultivated, the harvest of this product, lasting through April and May, being an important event in the plantation calendar; and on the higher slopes are numerous and extensive plantations of the red-barked cinchona tree which yields that drug, quinine.

In the western end of the island, the natives are mostly Sundanese, who, although a type distinct from the true Javanese, yet

diffidence in the presence of the stranger, which, by-the-bye, is not confined to the younger generation, is by no means an unattractive trait in the character of the people, accompanied as it is by a sincere, even eager, desire to satisfy any request for direction or information. It is not the shyness of stupidity, but of an innate gentleness. Among themselves these little bronze-skinned people are lively enough in their simple, childlike fashion.

Each kampong (village) has its market where haberdashery, cheap glass, and fancy goods, sarongs and fruits and vegetables are vended with gentle courtesy and complete absence of clamour and huckstering. The European visitor will notice, too, that in this primitive country he is not subjected to

irritating importunities for alms, which is one of the most annoying drawbacks to travel in some Eastern countries. The simple requirements of native daily life are met by a basket of steamed rice, a bunch of bananas and a leaf containing the ingredients for betel chewing. The rice, which forms the staple food of the natives, as also the foundation of most of the made dishes of the upper classes, is flavoured with peppers and with curried preparations of ground cocoanut, which, wrapped in banana leaves, are offered for sale to the passer. Mouths dyed and lips streaming with the crimson juice of the betel (*Arcaea*) nut are seen everywhere; and in his quid of this peppery stimulant, wedged between lower lips and teeth, the Javanese apparently find as much solace and comfort as even do the most confirmed devotees of tobacco from the weed.

Like most Eastern peoples the Javanese are expert in such craftsmanship as they have been accustomed to practise through centuries past; and in the pasars, in town or village, fabrics of native art and small articles of silverwork are displayed for sale. The former consist mostly of hand-patterned cottons of which the native dress, the sarong, is composed. On the stoeps of the village dwellings and up-country cottages by the roadside groups of women may be seen spinning and weaving the material; and the sewing-machine of foreign commerce will be found in alliance with deft manual operations. The hand-painting of the patterns on the cotton is an art in itself, in which the women and girls may be viewed sedulously employed, an ingenuity, in some cases amounting to genius, being devoted to producing various intricate designs in which native fancy runs riot. The popular decorations are conceived from natural objects, mostly leaves and quaint animals and insects; and the geometrical combinations of line and curve are endless. Brightly hued pigments are used, and the process of dyeing often occupies many weeks. The result is gay, yet always tasteful. The village silversmith, too, exhibits nicety of craftsmanship combined with taste in hammering out reliefs for toilet or tobacco boxes, and designs in earrings, belt clasps, and other small articles. Mat weaving is also a flourishing industry in the villages.

The villagers are not without set amusements. Native theatres and puppet shows line the main route, the performances lasting far into the soft, calm tropical night. And, to quote Miss Scidmore again: "Professional raconteurs thrill them (the villagers) with classic tales of their glorious past, while musicians make sweet, sad melodies to rise from gamelan or gambang kayu, from fiddle, drum, bowls, bells, and the sonorous alang-alang—a rude instrument of most ancient origin, made of five or eight graduated bamboo tubes, cut like organ-pipes and hung loosely in a frame, which, when shaken by a master hand, or swinging in the breeze from some tree branch, produces the strangest, most weird and fascinating melodies in all the East."

Sockaboemi and Bandong are the principal centres of the Preanger Regencies, the latter being the capital of this division; and these two towns are the headquarters of the planters, who hold sway over the whole surrounding district. But although the European has so thoroughly imposed his rule on the country and his methods of culture on the soil, he has not interfered with the primitive agriculture of the native. In all directions the flooded ricefields (sawahs) diversify the landscape with their waving lines

of division. The peak of Tangkoeban-Præoc, on the confines of Bandoeng, is the Ararat of the natives, who entertain the fanciful superstition that on this height the prahu of their remote ancestors, having ridden out the Deluge, was here overturned to dry.

In the central parts of the island, where are the Sultanates of Soerakarta and Djocjakarta, the true Javanese, as distinguished from the Sundanese, is found living in his own primitive and picturesque fashion amongst scenery of unsurpassed tropical loveliness.

ing gongs, bowls, and other articles of brass and copper. From Djocjakarta the famous Borô-Budur is distant twenty-five miles. All the country round is intensely cultivated, every plant being as green and perfect as if it had special individual attention. At frequent intervals along the well-made roads, shelters, in the shape of red-tiled pavilions, extend over the highways and provide refuges from sun and rain; and pasars (markets) are held by the wayside within walking distance of one another. Java, as



THE SEMÉROE.

(The highest Volcano in Java.)

The view of the plain of Leles as it bursts upon the vision may well have moved Miss Scidmore to term it "the fairest of tropical landscapes, a vision of an ideal promised land, and a dream of beauty." The inhabitants of this fairland pursue their agricultural operations of growing rice in the fashion that has prevailed from time immemorial, with the assistance of the buffalo, or water ox, for ploughing and draught purposes. They also engage in the craftsmanship of fashion-

a whole, is densely populated, the proportion of persons to the square mile being from 450 to 500, and the central region is the most thickly peopled of all. Along the main roads, a continual stream of passers-by flows ceaselessly in either direction, men carrying loads of fruit on their backs to the pasars, women carrying protesting chickens slung to their waist, and boys driving cackling geese. For solitude one must leave the beaten tracks. The remarkable increase in

the population in later times is attributed in great part to the strict sanitary regulations imposed upon the natives in their villages (kampongs) by their Dutch rulers. The standard of scrupulously clean Holland is rigidly enforced upon these careless children of the tropics, to their great benefit and to the enhancement of the daintiness of the general environment.

and other quarry which afford sport for the gun. The rhinoceros is said to exist in these wilder parts, and the jungle tiger has not only been seen on the railway line in the mid-provinces, but in the Teng'ger country, at the east end of the island, levies a toll on human life. There is also a species of wild dog, similar in type to the Indian dhole. But with the exception of monkeys and civet

roads, keenly curious, it would seem, about the ways of humankind and having much to say about them to his numerous companions as they climb and swing and chatter incessantly among the branches of trees by the wayside. Many species of beautiful birds are indigenous to Java, and their bright-hued plumage flashing in the sunlight as they dash and wheel through the air serves to add to the brilliancy of the general scheme of life and colour.

Tjilatjap—Miss Scidmore remarks that this certainly arresting name, whichever of the several methods of spelling it be adopted, "at once suggests enough puns to spare one printing them," and wonders if it can be properly pronounced without sneezing—is one of the oldest foreign settlements in Java. It is situated about the middle of the south coast, and is connected by a short branch with the trunk railway that runs east and west through the island, the junction being at Maos, the halfway spot on the through journey, where there is a commodious, well-built, and comfortable passaggrahan, or Government rest-house, affording meals and sleeping accommodation for travellers. Since the construction of the railway Tjilatjap has somewhat lost its former evil reputation for the prevalence of a particularly deadly form of malaria; and this old settlement is well worth seeing for the sake of the wonderful leafy avenues of teak, tamarind, kanari and waringen trees, which convert every street and lane in the town and every road about it into lofty tunnels of living green. As the sole good harbour, naturally landlocked, along the whole length of the south coast, Tjilatjap has a commercial importance evidenced by the copra and sugar warehouses which line the harbour front. Otherwise its old military encampment, unused parade grounds and general aspect of a forsaken military station speak rather of the past and half-forgotten days of the Portuguese conquest than of the bustling, business-like present. Looking seaward from the old camp an impressive view is obtained of the Noesa Kambangan, or "Floating Island," which lies off the coast in a long dark mass. This island is inhabited by a few natives who pursue the perilous occupation of collecting from their hiding-places the edible nests of the swallows who swarm in myriads here and build under the eaves of the precipitous cliffs. Fine mountain scenery, a wealth of floral growth, and some curious caves, the latter renowned in Javanese story, are the chief attractions of Noesa Kambangan.

On the north coast of the central part of Java are the ports of Cheribon (westward) and Semarang (eastward), separated from one another by a distance of about 150 miles, and connected by a steam tramway which passes through Pekalongan, another coastal centre and the capital of the province of that name. Although off the main trunk line, Semarang forms one of the headquarters of the railway system of the island.

The eastern part of Java is the most mountainous part of the island, and contains several notable volcanoes, including the famous Bromo and the lofty Seméroe, from both of which safety valves of the internal fires of the globe steam and smoke are to be seen ever ascending. But between the different ranges stretch vast verdurous plains extending to the cultivated lower slopes of the hills, patterned with smiling ricefields, dotted with sparkling fishponds, and intersected with rivers whose silvery course is marked by thick leafy fringes. Sugar cultivation is extensively carried on in this part, while the forests yield valuable timbers,



HOT SULPHUROUS WATERFALL, IDJEN PLATEAU.

The southern and south-eastern regions of the island embrace forests of magnificent hard timber of commercial value, including teak and fancy woods of different sorts, which form important articles of export. In these arboreal demesnes wild boars abound

cats, both classes numerous and ubiquitous, no wild animals frequent the cultivated regions of the islands. The lively simian, perhaps vaguely conscious of a distant kinship with man, is to be seen—and heard—anywhere about the villages and along the

principally teak, the products being exported from Sourabaya. This principal commercial centre and seaport of the island is situated on the east coast opposite the island of Madura, from which it is separated by a narrow winding strait. From the trunk railway which runs through the length of the island from Batavia to Sourabaya, and thence on to Pasoeroean, in the extreme east, several lengths of line branch off southwards through the sugar- and timber-producing country; and the railway finds its easternmost terminus at Banjoewangi, on the Strait of Bali, through which place emerges the submarine cable connecting Australia with India and Europe. In this south-eastern corner, the Jang and Ringgit and other mountains rise to considerable heights, and from the lofty summits magnificent views are obtained of the surrounding country, inland to other towering peaks and ranges, and northwards and eastwards to the shining sea. The principal means of conveyance up the mountains to the hamlets that dot their sides is by pony, the ways of ascent being generally too precipitous for vehicular traffic.

The Teng'gerese, who form the inhabitants of this mountainous region, differ in general characteristics from the denizens of Mid-Java and the Sundanese of the western provinces, being more uncouth than their gentle and refined neighbours westward, though not wanting in kindness and honesty. Owing to the scarcity of water on the mountains there is also a noticeable lack of the cleanliness, in regard to both the dwellings and the people, which forms so pleasant a feature of the country life in the middle and western provinces. The kampongs (villages) consist of large, square, windowless houses, each of which shelters one family; and the poor means of intercommunication afforded by the rough mountain tracks contributes to the isolation which characterises life in this high quarter.

The great Teng'ger crater, fifteen miles in circumference, which in earlier times in the world's history was a vast cauldron of boiling lava, belching flames, and lava, is now a sea of yellow sand, out of which rise the still active cone of Bromo and the now quiescent peaks of Battok and Widodaren. While standing on the edge of the crater, the rumblings and groanings of the internal workings of the internal fires are heard, and at intervals huge clouds of smoke rise from the peak of Seméroe discernible in the distance. A visit to these volcanic heights affords as solemnly impressive an experience as may be found anywhere in the world.

The volcanoes of Bromo and Seméroe are to be reached in a three-hour ride from Tosari, the health resort of East Java, whence expeditions into all the surrounding country may be undertaken. To this sanatorium, pitched on a sharp spur of the Teng'ger at a height of some 6,000 feet above sea-level, come the residents of Sourabaya and other places on the eastern coast to rest and recuperate in the fresh mountain air. Excellent accommodation is provided at a moderate tariff, and a resident doctor attends to the victims of malaria and other tropical diseases who flock to this health-giving spot from all parts of Java, and even come overseas from Burma, Siam, Singapore, and Penang. The invigorating atmosphere of Tosari, combined with magnificent surrounding scenery, innumerable pleasant excursions to be made in the neighbourhood, excellent catering, and, not least, delightful cosmopolitan society, is bringing this health resort of the beautiful island of Java into prominence with all the countries of the Eastern Archipelago.

The visitor to Java may be sure of meeting with courtesy and kindness from all classes wherever he may travel in the island; and the Britisher will not find an ignorance of the languages spoken by either the ruling or subject races a sensible drawback to his progress and enjoyment. On this head Mr. T. H. Reid says of his tour in the island:—"Speaking no Dutch, we had looked forward to many tedious days: but our fears were needless, for wherever we went we met English-speaking Dutchmen, who proved the most entertaining of companions. . . . On the score of not speaking Dutch or

lives in good style and is hospitably inclined, and both at Batavia and Sourabaya are colonies of British residents engaged in commerce, in which circles visitors of their own nationality are eagerly welcomed. In these two principal towns comfortable clubs have been established, of which the European and American residents are members. Both these towns are provided with good shops where all ordinary requirements may be obtained; and of gay amusements of all sorts there is no lack. Military bands play in the principal squares and gardens; afternoon drives are a fashionable institution, as in all



MOUNT MERAPI.

Malay, no English man or woman need be deterred from visiting Java. English is spoken at all the hotels, and, though all the train conductors and stationmasters may not do so, there is sure to be an educated Dutchman or lady in the car to whom one may turn for help, which is always readily given."

The Dutch official and planter class in total altogether some sixty-five thousand—which forms the aristocracy of the island.

Eastern cities, and there is a continual round of dances in the evening. The skating rink also affords opportunity for pleasant exercise for those who can enjoy superfluous exertion in a tropical climate. In the up-country residences of the planters, too, some of whom maintain large establishments, the visitor will be hospitably welcomed and made to feel himself at home. Altogether Java is a country of pleasant, kindly people as well as a wonderland of surpassing beauty.



THE THEATRE.

BATAVIA.

BATAVIA, the capital of Netherlands India, formerly the seat of the Government and still the centre of an important part of the Administration, is a long narrow town some ten kilometres in length, with a breadth of perhaps two kilometres in its widest part. There was a time when Batavia was a port, and the old town, Batavia proper,

insanitary and unhealthy as to earn the title of the "White Man's Grave." They have far more justification for such pride now. As soon as dusk falls the Chinaman alone is left in the business quarter. The Europeans escape to the residential districts of Weltevreden and Meester Cornelis, which are upon higher ground and amid more healthy surroundings. They are part of and yet distinct from the "old town," and it is these modern

fortable bungalows, in which European residents make their homes, seem for the most part to be enshrined in gardens of green foliage, and a stroll round the two great plains—Koningsepian and Waterlooëpian, facing which many of the finest houses have been erected, enhances the suggestion, immediately formed, that the whole district is like one huge park. A few yards away from the quiet of the plains is to be found the principal business thoroughfare, which, during the early hours of the evening, presents a scene of gaiety and animation that can scarcely be equalled in any other Eastern city. Here are all the large and fashionable shops, of which Weltevreden can boast a considerable number, and several cafés, brilliantly illuminated with electric light, where bands play and the people sit in the foreground, in the Continental fashion, enjoying the cool evening air. The suburb has been well planned, it is kept scrupulously clean, and while the natives in their bright coloured clothes, quietly making their way hither and thither, give the required picturesque touch to the life in the streets, the absence of the crowded native dwelling houses prevents the occurrence of those objectionable features which so often destroy the charm of the towns in the Orient. It is the home of the Dutch residents in a far more real sense than any town east of Suez can be said to be the home of the Englishman, and very naturally they have endeavoured to make it as attractive and cheerful a home as possible. It fully deserves the gracious title which, in his enthusiasm, one traveller accorded it. Weltevreden is indeed in many respects the "Queen of the East."

The history of Batavia begins with the year 1619 A.D. Several years before that time the Dutch had established a factory at Jakatra, surrounding it by a fort to protect it from the attacks of the English as well as of the native population. While Coen, then the Governor-General, was away in the Moluccas, gathering reinforcements, the Dutch garrison was compelled to surrender. On the retirement of the English it regained possession of the fort. When Coen returned a few months later he caused the settlement to be christened Batavia, and raised it to



IN THE OLD CITY.

which is distant about seven kilometres from the harbour at Tandjong Priok, is separated from the Java Sea only by a few hundred yards of mud. The Dutch were proud of their capital even in the old days, when from its low-lying position, it was so

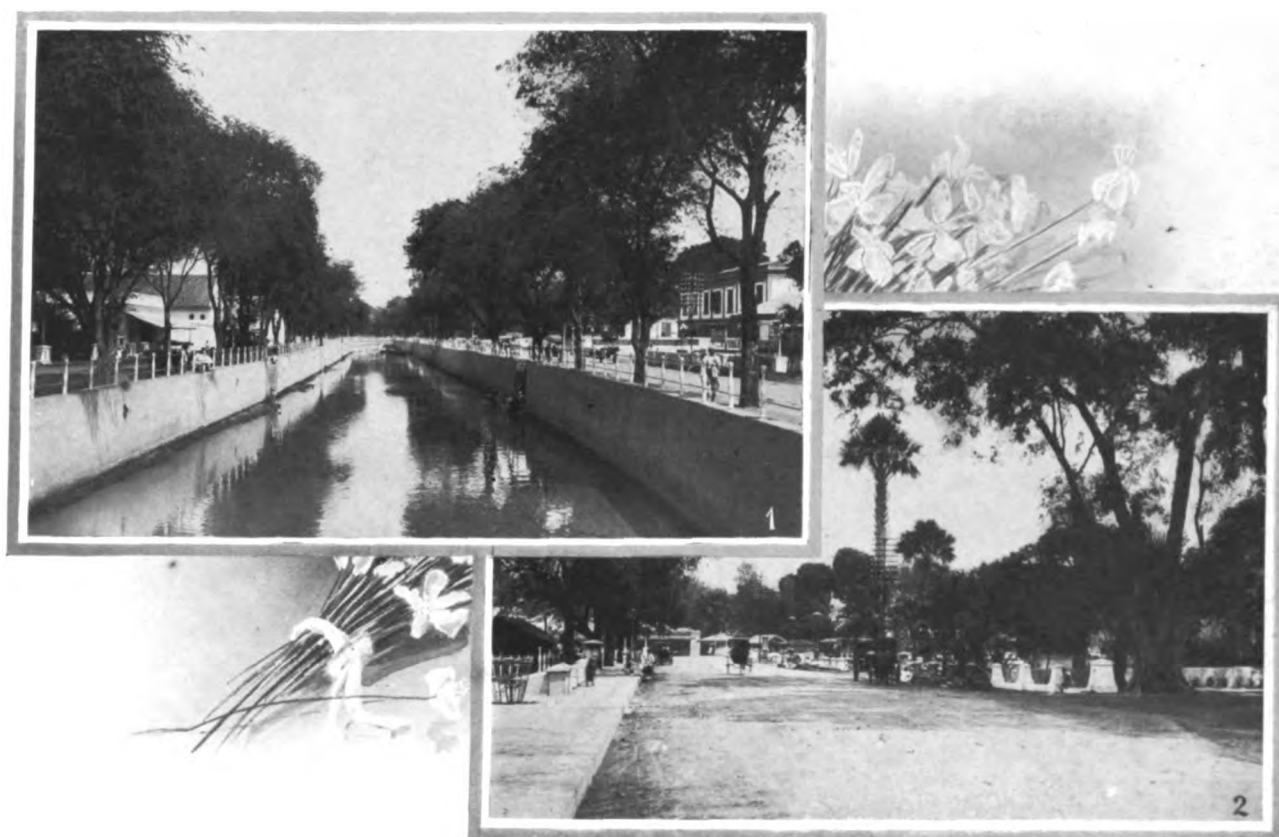
suburban, if so they may be called, with their broad streets and long avenues of trees, with their canals and pleasing open spaces, which have given Batavia its high reputation with English tourists. The Chinese are rigidly excluded from certain areas. The large com-

the dignity of the capital of the Dutch East Indies. It was characteristic of the Dutch to reproduce, as far as they could do so, Holland in the East. They built streets and canals, the latter drawing their water from the River Tjiliwong. Access to the city was obtained through five gates, and on the site of the old fortress and commanding the river, they erected a castle, within which were to be found not only an arsenal and offices for the Government, but warehouses and at least one private residence. Some years later (in 1671) the so-called "Penang" gate was erected and decorated with hideous bronze images. This gate and a few warehouses alone remained after the destruction of the castle in 1806 by Daendels. Five years later, in view of operations by the English, Batavia was dismantled, the seat

related which illustrates in a striking manner how unhealthy the district was at that time. John Caspar Leyden, energetically searching the Dutch archives in Batavia, forced open the door of a closed office, and spent some time examining the papers on the shelves. "He came out," says D. C. Boulger, "a stricken man, seized with that mysterious ague and fever for which doctors have discovered neither name nor cure, and which, not so many years later, attacked the illustrious Heber, under very similar circumstances, and with an equally fatal result." He was buried in the cemetery close to the spot where, only a few years later, Olivia Raffles was to find her resting-place.

The fortunes of the war are dealt with elsewhere. At the age of thirty Raffles took up his duties at Batavia as Lieutenant-

methods of handling cargo are always the subject for a chorus of praise. In building the harbour, the Dutch may be said to have adopted the motto: "The best is good enough for us." Begun in 1877, in the course of six years their engineers constructed the harbour works much as they appear to-day. The outer harbour, 26 feet deep, has two piers, each more than a mile in length, built of a sort of rock crystal (trachyte) obtained from the island of Poeloe Merak, off the coast of Bantam. The inner harbour measures 1,100 by 175 metres, and accommodates the Dutch and French mails, which discharge their passengers and goods at the dockside. Hard by is a smaller coaling harbour, not as yet fitted with modern machinery, as is the case in the new and rising Dutch port of Sabang, but capable of putting on board



1. CANAL BETWEEN NOORDWYK AND RYSWYK.

2. NOORDWYK—ONE OF THE PRINCIPAL STREETS IN WELTEVREDEN.

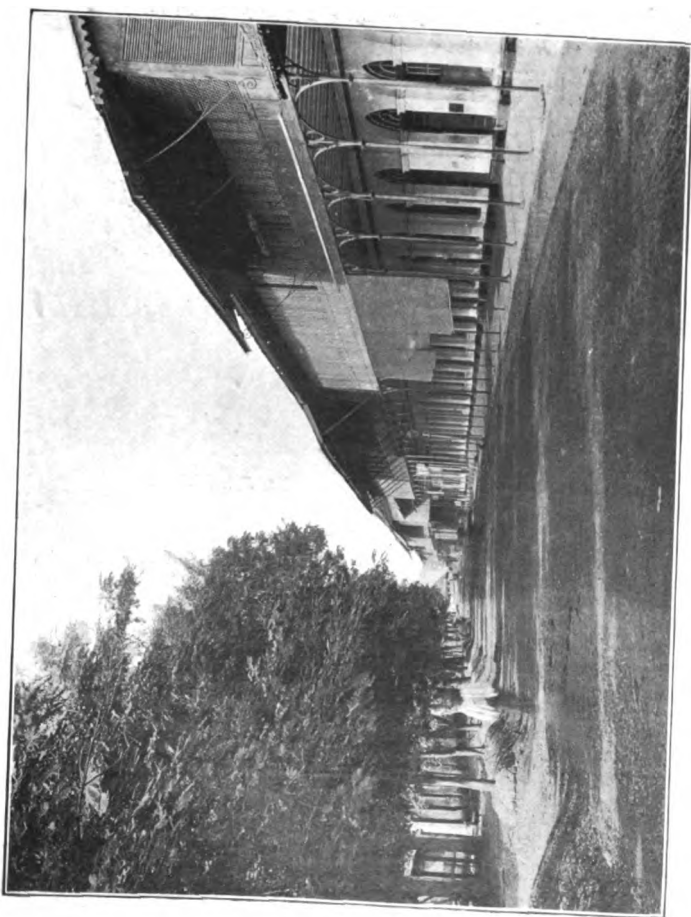
of government removed to Buitenzorg, and the outlying forts at Weltevreden and Meester Cornelis strengthened.

It is interesting to note, from historical records, that even at this early period hundreds of Chinese, "a venal, crafty, unscrupulous, industrious, and heartless people," arrived year by year in Batavia, in Chinese junks. They "fanned the public markets in Batavia and its vicinity, and, in consequence, the degeneracy and poverty of the lower orders became proverbial." The Chinese and Dutch between them employed (in Batavia) nearly 20,000 slaves, mostly as domestic servants. The Javanese chiefs "never required the services of slaves, or engaged in the slave-traffic." A pathetic incident is also

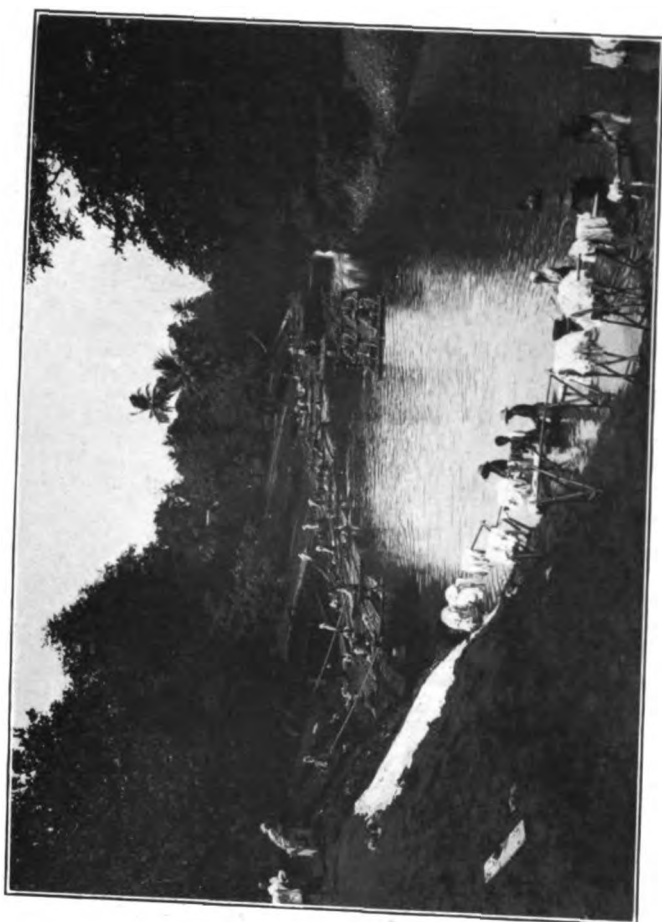
Governor of Java, his official residence being at Ryswyk, in Weltevreden, where, in the first year of office, he gave a dinner and ball to Lord Minto, at which Generals Janssens, Lutrow and De Koch were present. In 1816, the Dutch possessions having been restored to them, Raffles returned to England.

Batavia has a picturesque approach from the sea, and as the steamer makes its way slowly from the outer harbour alongside the wharf, the traveller is able to appreciate the enterprise and energy of a people who have with great labour provided such excellent berthing accommodation for all but the largest vessels. The shipping, of which there is a considerable variety, strikes a note of prosperity, while the admirable

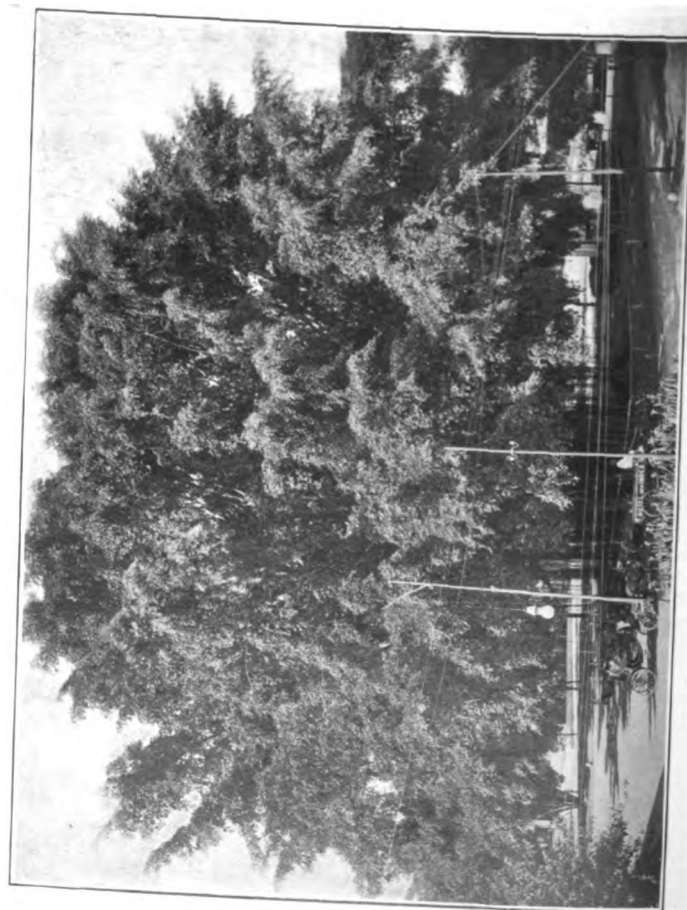
upwards of forty tons of coal per hour into each bunker. There are also dry docks and construction shops, fairly equipped, and held on lease till 1916 by the Dry Dock Company. The total cost of the harbour works, as originally planned, was G. 21,500,000, a figure which has since been considerably increased. In one point only are they behind the times, and that is in respect of the quarantine arrangements for cattle and horses, which are turned adrift on low, swampy ground, with no shelter other than that afforded by trees. It is probable, however, that nothing satisfactory could be done short of removing the station to some distance inland, the enormous expense of which would not be justified at present by the extent of the import



THE KALI-BESAR.



AN EVERY-DAY SCENE ON THE RIVER.



FAMOUS WARINGIN TREE HOTEL DES INDES.



MODERN BATAVIA RESIDENCE.

trade. Should the negotiations which are now going on between the Dutch and Australian governments result in any material increase in the cattle trade, the quarantine question will become serious.

The Customs House is situated between the dock and the railway station, and here, again, with one exception, everything has been done to expedite the transfer of baggage from steamer to train. That exception is the detention of firearms while the passenger goes to the *Stadhuis*, five or six miles away, for the necessary permit, which itself is quite needlessly full of details. Batavia is reached after a journey of fifteen or twenty minutes, the railway running for most of the journey parallel with road and canal. Between the canal and the sea there is little but swamp and oyster beds, with an occasional fort or battery; on the land side, forest and native holdings with cultivated land stretch away into the interior.

The two stations in Batavia, the one belonging to a private company, the other to the State, are within a short distance of

Mountains to the coast on the northern boundary of Batavia. This fact, together with the heavy rainfall, is responsible for the steady flow of water which drains the whole of the town from year's end to year's end. Entering Batavia at Meester Cornelis and Tanah Abang respectively are two main river canals, for the Dutch have, where practicable, widened and deepened existing rivers, fortifying the banks with solid stonework. These flow right through the city, branching off in different directions, intersecting one another, and finally discharging their waters into the ocean. The canals are not only used for barges and rafts bringing down timber and bamboo from the highlands, and for carrying heavy goods from the docks. They form also the bath and wash-tub of the native population. Batavia is fortunate in having an excellent water supply, all the drinking water being obtained from artesian wells, and although there are occasional cases of typhoid attributed to the water, it may be said with truth that it is sufficiently pure to satisfy all but the faddists. The roads are

with a still greater share of that animal's stubbornness. The driver sits in front, and the passenger, at a most awkward angle, behind, with his back to the driver. The *sado* will not compare, either in comfort or convenience, with the *jinricksha*, but the latter vehicles are unknown in Java. Their absence is due partly to the humanitarian instincts of the Dutch, partly, no doubt, to the distance between the business and residential quarters, and partly again to the fact that the natives will not pull them, and the Chinese are not sufficiently numerous, nor, it may be added, of sufficiently low type to do so. Curiously enough, these reasons do not apply in Sumatra. The *ebro* is a four-wheeler, with sitting accommodation for two or three passengers, drawn by a couple of weedy ponies. These vehicles are generally shaky to a degree, but they are cheap and indispensable.

The first impressions of Batavia formed by the traveller journeying to the town from Tandjong Priok are not altogether prepossessing. He alights in the centre of the



1. ENTRANCE TO HERTOG'S PARK.

2. WILHELMINA PARK.

one another. From the first, a line runs to Buitenzorg, with a short branch to Meester Cornelis, while one of the State lines goes to Meester Cornelis direct and another round Chinatown to Tanah Abang, meeting the Meester Cornelis line at Struiswyk. Thus the whole town, with its outlying districts, is enclosed and bisected by railways. Equally noticeable is the very comprehensive system of canals, in the construction of which the true genius of the Dutch is to be recognised. There can be little difference of opinion as to the sound judgment displayed in providing a constant free circulation of water in all directions throughout this cosmopolitan city. Recognising that Eastern peoples do not seriously consider the question of sanitation, the Government has, by its system of canals, reduced the danger arising from insanitary habits almost to a minimum. The task was rendered easier from the fact that the land consistently falls, at first somewhat rapidly, but in the neighbourhood of the town gently and almost imperceptibly, from the Preanger

watered, not less efficiently than in other Eastern towns, by coolies, who carry a huge watering pot on each arm, filling these from the standpipes at the side of the road.

There are two systems of trams running through or around the city. Steam trams run direct between Batavia Old Town and Meester Cornelis, *via* Molenvliet, Ryswyk (Weltevreden), Kramat, and Salemba, while electric trams follow a circuitous route from the Old Town, skirting Weltevreden and Kramat, and so, by Menteng, to Tanah Abang and Ryswyk, the terminus being at the Harmonie Club. There are three classes of carriages, one of which is reserved for "inlanders," as the natives are called, and the fares are low on both systems. The trams run every few minutes from five o'clock in the morning until after sundown. The only other public conveyances in Batavia are the *dos-a-dos*, commonly called "*sado*," and the *ebro*. The *sado* is a low car on two wheels, drawn by a small Javanese pony, which combines the endurance of a camel

business quarter; upon his right, in the Kali Besar, are the offices of most of the great commercial houses, and very old-fashioned, inconvenient, and dilapidated offices they are. The wealth they represent may be considerable, but little is spent upon outward show. A short distance to the left and one is in the midst of the innumerable small businesses conducted by the native and Chinese population. At all hours the sons of the Celestial Empire, stripped to the waist of all clothing, may be seen labouring steadily and consistently in their dingy workshops, surrounded by a conglomeration of rubbish, such as would be discarded as useless by the Western artisan, but which their ingenuity will doubtless turn to account. The study is an interesting one, but the sight is not particularly attractive; there is nothing picturesque about the Chinese workman. The streets are much narrower in the business town than in the suburbs; the atmosphere seems closer and more oppressive, the whole place has a dragging, dirty appearance. It is not this

locality which has given the capital of Netherlands India its high reputation.

What would in Europe be called the market square is flanked on two sides by the *Stadthuis*, containing the offices of the

of the Government Mines Department, the Public Works Department, the local Court of Justice, and one or two of the minor offices connected with local government. The "Gang Chaulan," with its curious watch

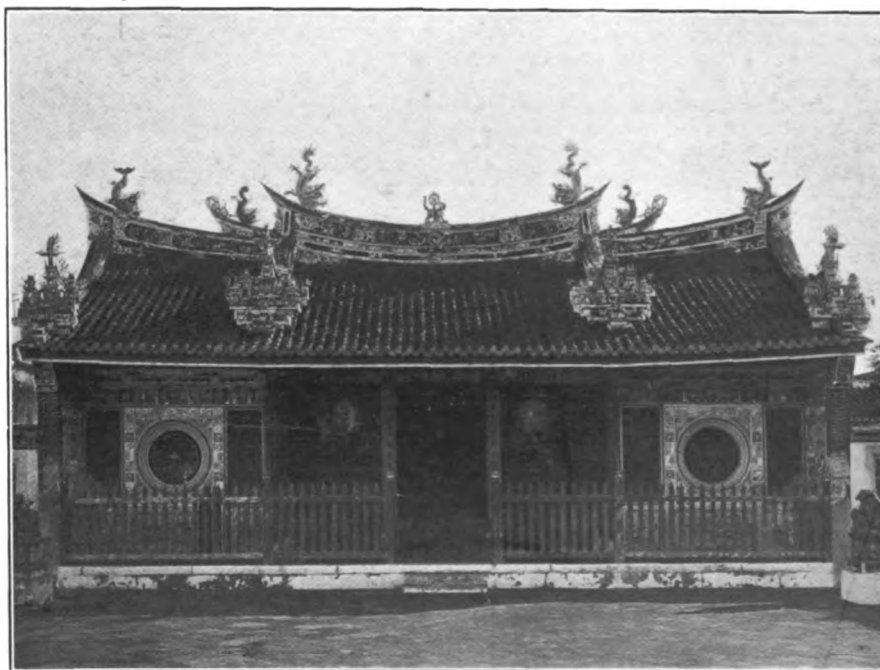


CHINESE QUARTER.

Resident, Assistant, Resident, and other Government officials, and the courts of justice. Upon the façade is a figure of Justice, while inside the *Landraad* Court is a painting depicting the judgment of Solomon. In the main road—*Binnen Nieuw-poort* Street—at the back of the *Stadthuis*, is the post and telegraph office, while a little to the north-east is the *Stadskerk*, with an old European cemetery near by. Still further east, between the *Gelderlandsche Weg* and the electric tramline, the old name "Jacatra" is still retained, and here may be seen a marble tablet to the memory of Peter Elbeveldt. To the north of the *Stadthuis*, past the steam tram terminus, is one of the old city gates and the remains of a castle. Between the *Kali Besar* and the sea may be found, although not without difficulty, the tomb of a famous "hadji," to visit which Europeans must remove their shoes and the natives purify themselves. At almost any time a good Mahomedan may be seen here reading or reciting the Koran. In the neighbourhood is an old cannon, named "Marian," the object of much veneration among the Javanese, who burn incense there for the sake of "fertility."

Molenvliet, a long stretch of road running due south, forms the link between old and new, between Batavia and Weltevreden. Gradually the small native shops and Chinese houses give place to larger dwellings, and then comes the district of *pensions* and hotels. Nowhere, however, are the native *kampongs* very far distant, and upon the left, between *Pasar Prinsen Laan* and the *Sawah Besar*, is a huge Chinese cemetery and church that is not without interest, while close at hand is a Portuguese church built in 1693, containing the tomb of Governor-General *Zwaarddecrón*. In the main thoroughfare are the Deacons' Orphanage, now the office

house, wherein the native watchman tolls the hours—when he is not asleep—always with a marked *accelerando* between the last



CHINESE TEMPLE.

two strokes, is the post road to Tangerang, and marks the real boundary between the "Westenders" and "the others." A few yards distant, and upon opposite sides of

Molenvliet, are the *Hôtel des Indes*, with its famous waringen tree, the foliage of which covers a thousand square metres, and the *Hôtel Wisse*. The road and canal then take a fine sweep round to the left, into Nordwyk and Ryswyk, the two main thoroughfares in Weltevreden, with the *Harmonie*, one of the principal European clubs occupying a conspicuous situation on the corner. Molenvliet ceases at the turn, and the direct continuation of the road to the south is, for some reason that is not quite clear, known as the French quarter. Here and along Nordwyk all the principal shops are located, forming the centre of the business life in Weltevreden. Most of the establishments, however, are closed during the hours of the customary afternoon siesta, and the town then has a deserted appearance. Towards five o'clock the doors are thrown open and the real business of the day commences. During the hours immediately preceding dinner, Nordwyk is a favourite promenade, and has been likened by more than one enthusiast to the boulevards of Paris. The stream of pedestrians constantly passing to and fro, the glittering shop windows and the strains of music proceeding from the *café* gardens all combine to furnish reason for the comparison, and even the least imaginative of persons is bound to admit the vast difference between this scene and the dimly lighted, deserted streets of Singapore, for instance, after the business of the day is done.

Nordwyk and Ryswyk are separated simply by the canal. On Ryswyk are the two other principal hotels—*Nederlanden* and *Grand Hôtel Java*—and one of the palaces of the Governor-General, while at the back of Ryswyk is the famous *Koningsplein*. The best way, perhaps, to reach this large open space in the centre of the chief residential district is through the French quarter, turning sharply

to the left after proceeding two or three hundred yards from the *Harmonie*.

The plein is an enclosure of rough stringy turf, about half a mile square, surrounded by

fine wide roads with broad asphalt paths and avenues of magnificent tamarind and waringen trees. These roads are flanked by the best European residences, with the Museum on the west side and Willem's Kerk, directly opposite upon the east side. Upon the plain itself are the training stables and the racecourse of the local turf club, the unpretentious wooden pavilion of the British Cricket Club, and several other small buildings. It is anticipated that very shortly additional Government offices will be erected here, and the apparent indifference of the Dutch to this magnificent site, which, with the expenditure of a little money, might easily be transformed into a huge park, with beautiful gardens, shady walks and splashing fountains—"a thing of beauty and a joy for ever"—is a subject of astonishment to all visitors.

A hundred yards to the east of Koningsplein comes another stretch of green sward—not so large as the former, but still of considerable extent—Waterlooplein. Upon the farther side is the Governor-General's old palace—now used as Government offices—with the bronze statue of Jan Pieterszoon Coen, the founder of Batavia, in the foreground, while upon the plain itself is the Waterloo Lion, resembling the monument on the field of Waterloo, and reminding Englishmen that the honours in that memorable encounter are shared by the Dutch. Adjoining the Government offices is the Club Concordia, a military club, whose doors are hospitably opened to civilians, where excellent concerts are frequently given by the military staff band. On the opposite corner is a strikingly handsome Roman Catholic church, with a statue raised in memory of General Michiels a few yards distant. Surrounding the other sides of the plain, and within easy reach of the infantry and artillery barracks and the military

that the little English church is situated. Built originally out of borrowed capital by the Scotch Presbyterians, it has had a somewhat chequered career. At various times it

attached to the church, the revenue from which is the only permanent source of income. Adjoining the church is the English library, with a collection of two or three



CLUB CONCORDIA.

has been presided over by an English Church clergyman and a member of the American Episcopal Methodist Church. Now the lay reader is a Dutch schoolmaster appointed

thousand books, chiefly of the kind known euphemistically as light literature. Still further south are Kramat, Tjikini, Salemba, and Meester Cornelis. The Gardens at Tjikini, where formerly a regular menagerie of wild animals could be seen, are now a place of public amusement, football matches, concerts, bioscope entertainments and fancy dress balls being frequently arranged. Half a mile further on is the Civil Hospital, built on high ground, amid beautiful trees and lawns. Meester Cornelis is another great military centre, with barracks, schools, magazines, and clubs. All these districts are residential, and as the ground rises gradually from Batavia, these suburbs are regarded as being even more healthy than Koningsplein.

But to return once more to the heart of things: striking out from there, in a different direction, it will soon be found that the interesting features of Batavia are, as yet, by no means exhausted. Quite close to the two Plains, almost indeed, it might be said, lying between them, are the Citadel Grounds. They are open to the public, and no better spot can be found for enjoying the truly magnificent Java sunsets. From the open space in front of the grounds roads branch off in every direction: Nordwyk and Ryswyk to the left, a short road joining with Waterlooplein to the right, and the Pasar Baroe, bounding the district of that name, running parallel with the canal. Upon the opposite side of the canal to Pasar Baroe lies the General Post Office, and, at the corner, where the steam tram turns sharply to the south, is the handsome Schouwberg or Theatre. The Pasar Baroe, to the eternal confusion of the resident, has given its name to no less than three streets in the immediate neighbourhood. One of these turns in a northern direction, opposite the theatre, and continues to within a short distance of the large Chinese cemetery, of which mention has already been made. This is a



"HARMONIE" CLUB.

hospital, are the residences of many of the higher military officers. Continuing from the hospital in a general southerly direction, the district of Parapatan is reached. It is here

by the late Bishop Hase of Singapore. Each Sunday an attenuated congregation of a dozen to twenty people gathers to hear the lessons read. There is a large residence

very busy shopping quarter, patronised largely by Eurasians. For the most part, the shopkeepers are Chinese, but many Japanese and traders from British India and Singapore have their headquarters here. The native market at the lower end of the street provides a scene of perpetual interest, and, indeed, the whole locality is an inexhaustible, ever-changing study. Representatives of every race in the Orient are here, but dominant, aggressive, the masters of the largest establishments, the directors of the most important enterprises, are the Chinese. A great many of them have married native women, and the offspring of such unions regard Java as their home and take a pride in that limited form of local government for which the Chinese Raad is responsible. They are generous in the endowment of schools and the up-keep of societies for the help of the needy, and, generally speaking, make excellent citizens.

The Dutch have succeeded in creating a European town in an Oriental setting, without allowing the usual intermingling of East and

THE MUNICIPALITY.

The principle of local self-government was not introduced into Netherlands India until 1905, and has not yet taken very deep root. The powers and functions of the various Councils, which have been established now in fifteen cities—Batavia, Meester Cornelis, Buitenzorg, Semarang, Bandoeng, Cheribon, Tegal, Pekalongan, Magelang, Palembang, Kediri, Sourabaya, Blitar, Padang, and Macassar—are strictly limited, nor can these Councils in any sense of the word be regarded as popularly elected bodies. Still, the experiment has been made, and has proved in most instances entirely satisfactory, so that it is reasonable to anticipate, that in the near future, a material extension of the franchise will bring to these Municipalities a very considerably increased administrative importance.

In most of the Municipalities in the Dutch East Indies very similar conditions prevail. The Assistant-Resident for the district acts as

are recommended by the Assistant-Resident and appointed by His Excellency the Governor-General. The members of the Council serve for six years, half their number retiring every three years. Meetings are generally held twice a month.

The Council has little power in financial matters. It is provided with an annual grant of G. 380,000 by the Government, and with this sum, together with the small amounts realised by the sale of water and from certain rents paid by those who occupy road sites or other grounds in charge of the Municipality, or make use of the slaughterhouses and market-places, it has to repair the roadways and carry out all work connected with the sanitation of the district.

The Assistant-Resident of Batavia is Mr. W. J. Ketjen.

THE CHINESE RAAD.

FOR the government of their numerous Chinese subjects, the Dutch have adopted a system in some respects similar to, although in its details far more elaborate and important than, that of the Protectorate of Chinese in a British colony. It consists of the formation of a number of honorary committees appointed for an indefinite period by the Government from among the leading members of the Chinese community. Such committees are called Raads, and, in their various districts, they are responsible for the explanation of Government regulations and laws to the Chinese people, and for the collection of the taxes payable by them. The members of the Raad are on the committee for the assessment of taxation and may be said even to form a court of appeal for its adjustment. They are also members of the land court at which Chinese cases are tried, and sit in the capacity of advisers to the judges. The Raad also compiles returns for the Government regarding Chinese business. Such duties as these occupy no small amount of time, but, nevertheless, the positions on the Raad, on account of the honour attaching to them, are highly regarded by the Chinese.

For the purpose of administering the law among the Chinese in Batavia, the town is divided into districts, each district being under the immediate control of a Chinese mayor, who is, in turn, responsible to the Raad. All requests from the Chinese, in no matter what connection, must be made to the Raad in the first place and forwarded thence to the Government. The Chinese Raad in Batavia should be composed of a major, four Chinese captains and six lieutenants, but at the present time there are several vacancies in the ranks. The members are Acting-major Nie Hok Tjoon; Captains Tjung Boen Tek, Tio Tek Soen, and Khouw Kim An; Lieutenants Khoe A. Fan, Nio Hoei Oen, Oey Boen Hoei, Oey Boen Soey; Secretaries, Lie Sien Seng and Khoe Siau Ing.

BATAVIA TRADING ASSOCIATION.

THE Batavia Trading Association, a name which perhaps suggests the idea of a business company, is an old established organisation, the headquarters of which now form the "Batavia Exchange." The society was founded to give the brokers a common meeting place, and to provide them with greater facilities for carrying on their business. Within a short while it began to publish a bi-monthly paper, setting forth the arrival and departure of sailing ships; later the market prices of produce bought and sold



OFFICIALS OF THE CHINESE RAAD, BATAVIA.

West, and the advantages are many and obvious. They have, however, married and intermarried with the subject race to such an extent that the Eurasian population of Batavia is comparatively far larger than that to be found in any other town in the whole of the Far East. The Eurasians, too, occupy an accredited social position. They rank in every way with the European, and are enabled to hold the highest offices in the State. In all official matters a strict and rigid etiquette is observed; in private life, the habits are formed with one idea of comfort. Many of the ladies wear nothing but the "sarong" and "cabaia"—an unattractive, unlovely attire, against which many writers have hurled their imprecations—until late in the afternoon, when the time arrives for receiving visitors or paying social calls. Their hospitality, however, is proverbial; they are noted for it in Holland; it is none the less marked and sincere in the capital of their East Indian Possessions.

the chairman of the Council and is the officer responsible for all the executive work. He, however, has no power to vote. The Municipality of Batavia comprises the whole of the Assistant-Residency and extends from Tandjong Priok to Mataraman, including the Old Town, Weltevreden, Kramat, Salemba, and Pagangsaan. Within this area there is a population of about 150,000, including 9,000 Europeans, of whom some 3,220 Europeans have the privilege of exercising the franchise. A voter must be a man over twenty-three years of age, who has, during the previous three months, resided within the municipal boundaries, and paid before March 1 of the year the income-tax (inkomsten belasting) and house-taxes (personeele belasting). The income-tax is not paid upon incomes of less than G. 900 a year.

The Council consists of twenty-five members—fifteen Europeans, seven natives, two Chinese, and one Arab. The Europeans are elected by the burgesses, the other members

in the town were also published. It is not known who were the directors of the association in the early days, but it may be seen from the records that a Mr. A. D. J. Penn carried out the secretarial duties. He published regularly a Batavia market report in Dutch and English, containing all particulars regarding Batavia trade and Java exports.

At this period there was also a Share Association in existence, under the supervision of Mr. J. Dinger, with Mr. L. C. van Vleuten as secretary. After the death of Mr. Penn, Mr. van Vleuten was appointed secretary *ad interim* of the Batavia Trading Association, but the attempt which was then made to unite the two societies was unsuccessful. Now, however, as stated, the Trading Association acts as the Batavia Stock Exchange. Each week a market report is issued, giving not only the goods exported direct from Java, but also a description of the various products brought to Java and Macassar for transshipment; while every month special statistics are compiled upon the trade in sugar, cinchona bark, tin, copra, rice, damar, black and white pepper, and coffee. The Government coffee auctions and the private quinine sales are held at the headquarters of the Association.

The directors of the Association are Mr. A. E. J. Buss, manager of Maintz & Co.; Mr. S. S. Toens, director of the factory of the Netherlands Trading Company at Batavia; Mr. B. H. Wassmann, manager of Messrs. Erdmann, Sietcken & Co. at Batavia, and Mr. C. R. Buss, manager of Messrs. B. van Leeuwen & Co., at Batavia. Mr. L. C. van Vleuten still carries out the secretarial duties.

CHINESE CHAMBER OF COMMERCE.

PREVIOUSLY to 1907, in which year the Chinese Chamber of Commerce was established, there was no properly organised body to represent Chinese commercial interests in Batavia. That such a society was urgently needed is proved by the excellent results achieved even in two short years by this new association. It is now in touch with all similar societies in China and other parts of the East, and has a very considerable influence locally. The business of the Chamber is conducted by a committee and honorary officials, who are elected annually. The president of the chamber for the time being is Mr. Lie Hin Pang.

STEAM TRAMWAY COMPANY.

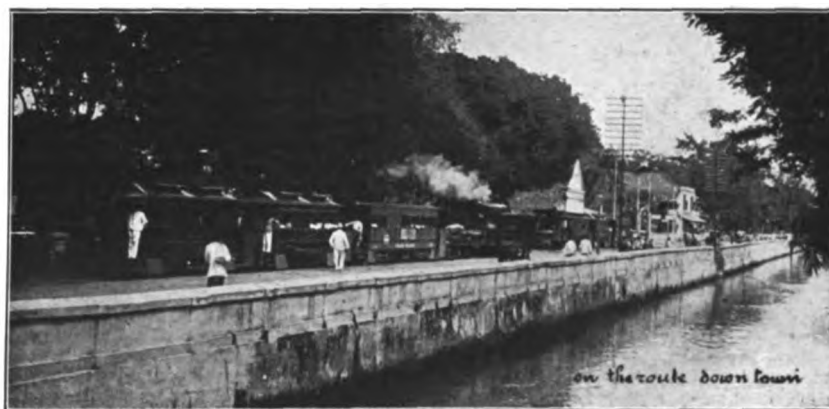
STEAM trams were introduced into Batavia in 1882 when they superseded an old system of horse tramways which had for some time proved inadequate to the needs of the public. The new Company started with a double line stretching from the lower town of Batavia along Molenvliet, Ryswyk, Waterloo plein, and Senen to Kramat, and with a single line from thence through Salemba and Mataraman to Meester Cornelis, which line has since been continued along the trunk road to Buitenzorg, known as the Main Post road, as far as Kampong Melaya, about fourteen kilometres from Batavia. The tramway thus traverses the whole of Batavia and Weltevreden from north to south connecting the busiest commercial quarters of the old town with the more purely residential districts. For business people it has proved the greatest boon. They use it in large and ever-increasing numbers, and while trams start in each direction every ten minutes throughout the day, it has proved necessary to run "expresses" for their accommodation morning and afternoon. These "specials," which are for first-class passengers only, are

always full. A trip from one end of the system to the other can be recommended to visitors as giving a rapid but comprehensive view of the town and its suburbs.

The first-class fare from Batavia to Kramat, a distance of seven kilometres, or from Kramat to Meester Cornelis, a distance of six kilometres, is fifteen cents (threepence); but the through journey may be accomplished at the cost of twenty-five cents only. From their inception the steam trams have proved highly successful, and almost every year more and larger carriages are required. The engines are driven by compressed steam contained in huge reservoirs, and the passengers are thus saved the annoyance caused usually by smoke or sparks or flying cinders. The Company possesses 33 locomotives, 77 carriages, and 11 waggons, which last are used chiefly by the natives for the conveyance of their produce for the market. The principal station at Kramat has a boiler-house with four large steam boilers having a total heating surface of about 270 square metres. At Batavia there is a similar station, with three steam boilers and a total heating surface of 250 square metres. These boilers, which are used in rotation, supply the daily demand of the service.

In 1908 the cars carried about 5,700,000 passengers, and as they run only from 5 a.m.

Observatory persuaded the Government to alter the road plans in such a way as to guarantee a clear space of 500 metres between the rails and the Observatory in order to safeguard the instruments from being either mechanically or electrically affected. A proposal to remove the Observatory to a more convenient spot found no favour, and the road trace was consequently changed. Subsequently it was found that the cars, even at a distance of 500 metres, endangered the accuracy of certain delicate scientific experiments, with the result that the instruments were finally removed to Buitenzorg. It must be admitted that had this plan been adopted in the first instance a considerable amount of inconvenience might have been avoided, and the original track line, much more advantageous in many respects than the present one, might have been utilised. A second difficulty was experienced in the conflict of interests between the new Tramway Company and the Telephone Company, but this was quickly overcome; and the third and last obstacle, caused by vagabond earth currents from the landline of the Eastern Extension Australasia and China Telegraph Company, which runs underground for a long distance parallel and close to the rails, was also surmounted by the adoption of a reasonable give-and-take policy by both parties.



STEAM TRAMS, BATAVIA.

to 6.30 p.m., this means that upon an average 1,200 persons patronise the service every hour, or 15,500 each day. In 1906-7 the total revenue was G. 348,654.39; the receipts for the year 1907-8 amounted to G. 367,604.39, when a dividend of 9 per cent. was declared.

The manager of the Company in Batavia is Mr. R. H. Bloemendal; while Mr. W. P. C. van der Horst carries out the duties of secretary.

ELECTRIC TRAMWAYS.

ELECTRIC cars have been running in Batavia for nearly ten years past, and, together with the steam tramways, furnish an excellent and, withal, a most necessary means of communication between the busy commercial capital and the scattered residential districts. The Company was formed in 1897 to take over the concession which had been obtained by Mr. Eekhout, but, at the outset, it had many difficulties to encounter, and when, in July, 1900, after two years spent on the work of construction, the lines were opened to traffic, they were arranged on a quite different plan to what had been originally intended. As soon as preparations had been made for the commencement of the work, the local

When the line was first opened to traffic the permanent way consisted of a single track, 12.8 kilometres long, with loops at sufficiently frequent intervals to permit the maintenance of a ten minutes' service. In 1906 an extension of 1,200 metres was constructed, so that now 14 kilometres of line are in working order, while plans are under consideration at the present time for a further extension of seven kilometres.

The Company generates its own electricity at Tjikini, where it has three large boilers and three dynamos, attached by belting to three steam engines, each of 250 horse-power capacity. The system is the double overhead trolley system, and, for motive force, a direct current of 550 volts, returning through the rails, is maintained. The rolling stock comprises twenty-two motor carriages, constructed for native passengers, and twenty-two carriages for first and second-class passengers. The carriages have two axles with two motors attached, and forward and back controllers.

During recent years, the Company has made considerable progress, and for this, undoubtedly, good management is largely responsible. The director of the undertaking

is Dr. J. D. Otten, who resides at Amsterdam. He is represented in Batavia by Messrs. Palm and Van Amstel; while Mr. S. R. J. Onnen, a thoroughly qualified and expert mechanical and electrical engineer, has carried out the duties of local manager since the commencement. The popularity and usefulness of the tramway service may be gathered from the fact that in 1908 the passengers numbered no less than 3,500,000.

GAS COMPANY.

PRIVATE enterprise is responsible for the lighting of the town of Batavia and the neighbouring district of Meester Cornelis. The necessary concessions having been granted by the Government in 1861, the Netherlands India Gas Company was immediately established for the purpose of exploiting them. The head offices of the Company are in Rotterdam, and its capital, in the first instance, amounted to G. 1,750,000.

varying from 3 to 15 inches in diameter, are used for the gas distribution. The street lamps, including those in the military quarters, number some 1,700, being placed throughout the town at intervals of 60 metres. Incandescent mantles are used without exception. The private customers of the Company total 3,590, most of whom are either Europeans or Chinese.

In addition to supplying the town with gas, however, the Company, for the last few years, has been responsible for the electric light also, the Electric Power Station, which was built in Batavia by Siemens & Halske being taken over by them in 1905. The station has four dynamos, driven by engines of 250 horse-power, the steam being supplied by four Steinmüllers water-pipe boilers, whose heating surface amounts to 724 square metres. Liquid fuel is used. In 1908 a Wolf boiler, one engine of 500 horse-power and two vertical engines of 60 horse-power each, were added to the

They have extended into many other parts of Netherlands India. The gasworks at Sourabaya, which were erected in 1879; the Semarang Gas Works, established in 1897; the Gas Works at Buitenzorg, built in 1901; and, finally, the Gas Works at Paramaribo, Surinam, are all under their direction.

The Director of the Company in Rotterdam is Mr. O. S. Knottnerus. Their chief representative in Netherlands India is Mr. C. O. Heuvelink. In his absence, Mr. G. J. Hoven, the second in command, is authorised to take over the responsibilities of the management. In Sourabaya, the Company is represented by Mr. P. Steigerwald; in Semarang by Mr. L. R. Sauter; and in Buitenzorg, by Mr. C. E. Croiset van Uchelen.

OFFICIAL TOURIST BUREAU.

JAVA, in spite of all its natural beauties, its many objects of interest and the pleasing and bracing climate of its hill stations, has not yet become a recognised halting-place for the globe-trotter. In his itinerary round the earth he passes gaily from Ceylon and British India, through Singapore to China and Japan, regardless of the many attractions which this green island just below the equator may have to offer. The indifference is the result of ignorance, and when, through various agencies, this has been dispelled, there is no doubt that Java will become a regular hunting ground for the tourist and vie with Ceylon and Japan in popularity.

There are already signs of the change that is coming. Many years ago Miss Scidmore described the island as the most beautiful and most exquisitely cultivated spot in the East; other travellers have been as enthusiastic, and enthusiasm is contagious. The visitors are gradually increasing in numbers, and last year the fact was brought home to the Government and the leading business men that such a constant stream has only to be maintained for a comparatively short period to bring about such a revolution in the tourist traffic as cannot fail to add materially to the general prosperity of the country.

With this object the Tourist Bureau was established. Now it is engaged principally in pioneer work to bring "Java the Wonderland" to the notice of the leisured classes in different parts of the world. Gradually, however, its duties of a local administrative character will become more and more important, and the lack of available information of which complaints have previously been made will be remedied by itineraries, guide-books, and conducted tours galore. Much has already been accomplished, and for this a considerable amount of credit is due to Mr. J. M. Gantvoort, to whose foresight and enterprise, mainly, the Bureau owes its existence. He it was who brought the Government to a realisation of the need of such an organisation. Mr. J. G. Pott, LL.D., at that time the Director of the Government Department for Education, Public Worship and Industry, supported the scheme, and on March 24, 1908, a meeting was held representative of all the leading business interests in Batavia and a tourist committee formed. The Government promised a subsidy of G. 25,000 on the condition that G. 15,000 a year for three years was guaranteed from other sources. This latter condition was easily complied with, the subscriptions quickly amounting to G. 3,000 in excess of the sum. The original committee comprised Mr. J. G. Pott, as the delegate of the Government, Jhr. J. H. Cornets de Groot and Messrs. J. M. Gantvoort, L. J. Ginjoolen, J. J. Stieltjes, and



OFFICIAL TOURIST BUREAU.

- | | |
|---|---|
| 1. J. J. STIELTJES (Member of the Committee). | 4. J. M. GANTVOORT (One of the Founders). |
| 2. J. M. PLANTE FÉRE DE VILLENEUVE (Secretary). | 5. JHR. J. H. CORNETS DE GROOT (Member of the Committee). |
| 3. L. J. GINJOOLEY (Member of the Committee). | |

With the growth of the town, however, the business of the Company had increased enormously, and in 1908 the capital was raised to G. 2,500,000.

The Company's instruments and apparatus are of modern construction, and a reserve plant is always ready in case of a breakdown. The gas is stored in four reservoirs, with a total capacity of 16,800 cubic metres, two blowers forcing the gas required for Meester Cornelis through pipes to a gas reservoir about 5 kilometres from the works. In the preparation of the gas, Australian coal only is used, that obtained locally being far less effective on account of its more recent formation. On an average, about 200 natives, who, though smaller and far less powerful than European labourers, prove very good workmen, are kept constantly employed.

Altogether about 125 kilometres of pipes,

installation, the work being carried out by Siemens and Halske. The alternating current of 2,000 volts at the power station is reduced to 110 volts by means of forty transformers. The leads carrying the high voltage current are laid underground, while the overhead wires are used for carrying the lower pressure currents. Consumers pay for the current at a price regulated by the use to which it is put. For the convenience of those people who are liable, in the ordinary course of business, to be transferred from place to place, the Company have installations, lamp fixings, &c., for hire. "Osram" and arc lamps are in the majority, but many carbon fibre and Tantal lamps are used also. The power station altogether supplies a light that is equivalent to 15,000 lamps of 16 candle power.

But the activities of the Netherlands Gas Company do not begin and end in Batavia.

Ed. H. Winkelman, LL.D. Upon the appointment of Mr. Pott to the Council of Netherlands India, Mr. H. F. van Stipriaan Luiscius, the Chief Inspector of the Java State Railways, was chosen to serve as the Government delegate. Mr. M. Middelberg was elected to fill the vacancy caused by Mr. Winkelman's absence in Europe, while Mr. A. Tigler Wybrandi, the head agent for the Rotterdam Lloyd Steamship Company, has taken the place of Mr. J. M. Gantvoort, who has resigned.

The Tourist Bureau was first opened in the *Hôtel des Indes*. It now occupies premises in Ryswyk, in what is known as the French quarter of the town, some few hundred yards distant from the Harmonie Club. Local committees have been established in Sourabaya, Semarang, and Padang (Sumatra), and one is now being formed at Djocjakarta. There are also representatives of the Bureau in Amsterdam, Port Said, Singapore, Hongkong, Shanghai and Sydney, whose duty it is to point out to travellers the manifold attractions of Java and to offer them every possible inducement for extending their tour to Netherlands India.

The record of the Bureau's activity, however, does not stop with the establishment of committees and the appointment of agents in different parts of the world. Although it has been in existence for scarcely eighteen months it has made its influence felt in many ways. Innumerable pamphlets in English, French, and German, map and guide-books, relating to the Dutch East Indies have been published and distributed broadcast. It has placed itself in touch with all the chief members of the Netherlands Consular Service, and through their agency many articles upon Java have appeared in leading newspapers. Efforts have been made to improve the local steamship services, so that regular connections might be obtained with the P. & O. and British India boats at Singapore. The passports which have to be carried by all visitors to Java could formerly be obtained at the Assistant Resident's office only. Now, owing to the action of the Tourist Committee, they may be purchased at the Official Tourist Bureau and at all leading hotels, while in the near future it is quite probable the rather irksome regulation will be swept away altogether. His Excellency the Governor-General has been interviewed upon the subject, and has promised to lay the matter before H.M. the Queen.

The Secretary of the Bureau, Mr. J. M. Prante Fêbure de Villeneuve, was formerly the Editor of the Semarang newspaper, *De Locomotief*. He is an excellent linguist, speaking Dutch, English, French, and German fluently, and has himself travelled considerably, not only in Netherlands India, but in Europe and in North, Central, and South America.

HARMONIE CLUB.

No one in Batavia can complain reasonably of the lack of good clubs. The "Harmonie," which on account of its excellent situation in Ryswyk is perhaps best known to visitors, will compare quite favourably with most of the social institutions found in tropical countries. It has excellent accommodation for its members—a ball room, a fine billiard room containing six tables, a library, and a spacious reading room, where many of the leading papers from Europe, Australia, and America may be found, while every Sunday evening an admirable military band gives a concert in the gardens. The residents of Batavia have a keen appreciation of good music, and these musical treats, for so they may be called, are always largely attended by the members of the club and their friends.

The history of the club is a rather interesting one. It was at the beginning of the 19th century when Governor-General Daendels finally decided that the old town of Batavia was unsuitable for European people, and in order to induce the residents to tear themselves away from the well-beloved but highly malodorous canals of that locality, he decided to transfer the Government offices and the club to a more desirable site towards the south. The removal of the offices was an easy matter, but the club was private property, and the committee objected to its removal unless all the members could be persuaded to retain their membership. Otherwise, they argued, the club would suffer a heavy financial loss. Governor-General Daendels, however, was not the man to let such trifles interfere with his plans. He soon persuaded the Club Committee to see matters from his point of view, and not only was he prepared to find the funds for the new building, but, if necessary, was prepared to "command" all officials of the Government to become members. On March 31, 1810, the contract for building the new club premises, which had been put up for tender, was granted to a Mr. Louw Kietho, who consented to complete the work within fifteen months for the sum of 105,000 "ryksdaalers"—paper money. The "Weeskamer" was authorised to advance 75,000 to 80,000 ryksdaalers towards this sum, on the security of the building, the club agreeing to pay interest on the money at the rate of 6 per cent. Janssen, who succeeded Daendels in 1811 had very little time to think of clubs or club buildings, and little progress had been made with the new premises when Lieut.-Governor Raffles, after the British invasion, pertinently inquired whether the club could or could not carry through the work. The club committee presented the Lieut.-Governor with an exhaustive address on the subject on October 10, 1812. They pointed out that they were unable to find the necessary funds, and that owing to the enormous rise in the price of timber and other building material, the contractor could not complete the work at the stipulated price. Lieut.-Governor Raffles thereupon authorised the "Weeskamer" to advance the money required, and to cancel in its books the amount already debited to the club. The building was accordingly finished towards the end of 1814, at what was practically the public expense, for the club's contribution amounted only to about one-thirtieth of the whole. The Government now placed the building at the disposal of the club—a small portion being lent to the Batavia Society (*Bataviaasch Genootschap*), but retained to itself the right to use, for public functions, the music saloon, the ball room, and any other apartment which might at any time be required.

When the Dutch resumed the Government of the Colony, they took over the Harmonie for the sum that had been expended on it by the British, plus 13,000 sicca rupees for a portrait of Lord Minto in one of the rooms. The club, however, retained its right to use the building under the conditions laid down by Raffles. In 1823-4, when the premises needed repair, the committee could not provide the money for the purpose, so the Government undertook this work also on the stipulation that the club would give up their claim to the one-thirtieth share in the building. Since 1824, therefore, the Harmonie has been entirely Government property. Between 1826 and 1850, all repairs necessary to the building were carried out by the Public Works Department, the club paying 200 guilders a year as its share towards

the cost. This contribution, however, ceased in 1850, since when the club has simply been responsible for the cleansing and maintenance of the interior of the apartments. The president of the club at the present time is Mr. J. Gerritzen, and the membership numbers about 430.

MILITAIRE SOCIETEIT CONCORDIA.

FORMERLY a club for army officers only, the Militaire Societeit Concordia, during the course of years, has developed into what may perhaps be considered the chief centre of social life in Batavia. The idea of the club was first mooted in 1830. Previous to this date the commissioned officers, less fortunate in this respect than their subordinates, for whom already a club existed, had no place where they could meet for social entertainment and intercourse after the duties of the day had been discharged. A petition was made to the Government, who, realising the need for some such institution, gave the promoters of the scheme a piece of ground and a building to serve as the headquarters of the society it was proposed to establish. The success of the club, when formed, was instantaneous, and within a very few years the building given by the Government proved altogether too small for its requirements. Moreover, there were a number of civilians who wished to join the society, and, after due consideration, it was decided to widen the scope of membership so that civilians might become eligible, and to provide the extra accommodation needed by the erection of a larger and more commodious club house. The committee were again fortunate in securing the financial support of the Government, and in 1885 the new premises were opened. About this time the club numbered 450 members, but its popularity and its membership increased by leaps and bounds. The present headquarters of the society, which are situated close to the Government offices in the very centre of the military residential quarter of Batavia, were built in 1880; in 1808 certain additions, including the Wilhelmina Pavilion, were made to them, and, in 1905, still further accommodation was provided in the shape of servants' quarters, dressing rooms for ladies and gentlemen and offices, so that the club as it now stands, surrounded by a well laid out garden, is one of the largest and finest buildings of its kind in Netherlands India. Altogether, it represents an outlay of something like G. 150,000.

The club has a library containing 4,000 volumes in various languages, a reading room well supplied with Dutch, English, French and German papers and periodicals, and a billiard room, with a number of excellent tables. On Wednesdays, from 7 until 8.30 p.m., and on Saturdays, from 9 o'clock until 1.30, a military band of some fifty performers plays musical selections in the club grounds; once a month there is an orchestral concert; on the last Saturday in each month a small dance is arranged by the club members; every month there is a children's ball, and on the second Sunday in each month the large hall is given over to those who wish to indulge in roller skating. Once a year a large ball is given by the club committee, at which all the leading residents in Batavia are present, and there are minor entertainments for adults and the children, so that the members of the club can scarcely complain of being dull.

The club membership at the present time comprises 1,054 gentlemen and 108 ladies

There is no entrance fee for army officers, but civilians pay G. 15 upon being elected. The monthly subscriptions for gentlemen is G. 4 and for ladies G. 2.50. The club being primarily a military institution, the balance of power in the management is naturally held by members of the military profession. The president is usually a colonel of the army, the vice-president a major, while the committee consists of three army captains and three civilians. The president of the club for this year is Lieut.-Col. J. C. Palm.

TIONG HOA HWE KOAN.

THIS Chinese society, or club, which has for its object the better education of Chinese children in Netherlands India, and the social improvement of the Chinese community generally, was founded in the early part of 1900, and formally recognised by the Netherlands India Government. A few months later, a school with accommodation for over 600 pupils was built, and here instruction is given in Mandarin Chinese and English. Formerly, there was no institution where Chinese children could be taught their own language. At the present time, the school

authorities in China, who have promised a grant of 20,000 taels, with an annual contribution of 6,000 taels, when the society is in a position to establish a middle school at Batavia. English instead of Dutch is taught, because without assistance from the Dutch Government the society is unable to engage European teachers, whereas it can afford to retain the services of Chinese, who, born and educated in the neighbouring British Colonies, are quite competent to give elementary instruction in the English language.

The president of the society is Mr. Phoa Keng Hek, and the vice-presidents, Lieutenant Khoe A. Fan, Lieutenant Nio Hoey Oen, and Lieutenant Oey Roen Soey. The secretary is Mr. Tan Kim Bo, and the assistant secretary Mr. Lauw Giok Kan. The masters of ceremonies are Mr. Tan Kim Sab, Mr. Tan Siong Ho, and Mr. The Tjong Long. These officials are assisted in their duties by a strong committee.

Associated with the Tjong Hoa Hwe Koan is a Chinese recreation club, which was established by Mr. Lee Teng Hwee, B.A., a graduate of the Yale Institute, who during his sojourn in Batavia did much to further



CHINESE OFFICIALS IN BATAVIA.

1. CAPTAIN KHOUW KIM AN.
2. LIEUT. NIO HOEY OEN.
3. PHOA KENG HEK, President of the Tjong Hoa Hwe Koan (Chinese School).
4. LIEUT. OEY BOEN HOEY.

has a total of 300 scholars, with an average daily attendance of 260, and a staff of 14 teachers. Only elementary education has been provided so far, but gradually the standard is being raised, and it is highly satisfactory to note that already some of the old pupils of the school have been winning distinctions at Nanking College, China, where, if they show special ability, they are sent to continue their studies. The Tjong Hoa Hwe Koan has twenty branches, and at all of them educational work is being carried on. Up to the present, however, it has been carried on at a loss, the income from school fees being much less than the amount required to meet current working expenses. The actual loss during the present year has been about G. 600 to G. 800 a month, and it is only due to the generosity and willing assistance accorded by several members of the Chinese community in Java that the good work has been continued. So far, the society has been unable to obtain any aid from the Netherlands India Government, but has been successful in attracting the attention of the

the love of sport among his fellow-countrymen. The club has fine premises situated between the Old Town and Weltevreden. The president is Mr. Tjoa Kim Goan.

SPORT.

While it would be impossible to deal with the subject of "Sport in Java" as briefly as a certain writer did the subject of "Snakes in Ireland," it is an indisputable fact that sport in Netherlands India generally occupies a greatly inferior position to that which it takes in a British dependency, with the exception of horseracing, in which naturally only a limited section of the community can take part, although in many instances the race meetings are looked upon as general holidays. Practically the only form of sport accorded any considerable amount of public favour is football. It is a curious fact, moreover, although there are, of course, individual exceptions, that in neither the one nor the other—football nor horseracing—do the English community take any great interest.

THE TURF.

The Batavia Turf Club owns a fine property on Koningsplein, where the racecourse, one mile round, is located. There is ample seating accommodation provided for the spectators, and fine stabling for upwards of one hundred horses. The races are largely attended by natives, as well as by the great majority of the European community, it being no unusual thing for one meeting to attract a concourse of fifty thousand persons. The club is in a sound financial position, and has a membership of about six hundred, including all the prominent racing men in Netherlands India. Race meetings are held in May and October, while a gymkhana takes place in August. Each of the race meetings lasts for two days. For the most part, the competing horses are either Australian or Java bred, and some very good times have occasionally been registered. Bookmakers are allowed to attend the meetings, and there is also a *pari mutuel*, where the turnover is often upwards of £5,000 for the two days. The president of the club is Mr. B. Vlie-lander; the vice-president, Baron van Heeckeren tot Walien; and the honorary secretary and treasurer, Mr. O. Still. Mr. O. Still is a great enthusiast, and is himself the owner of a racing stable, the horses from which have met with considerable success throughout the Dutch East Indies.

FOOTBALL.

Football might almost be described as the national game. It is played everywhere by the Dutch and Javanese. There are probably upwards of twenty clubs in Java, and league matches, which are usually played on Sunday afternoon, attract large crowds of onlookers.

The principal clubs in Batavia are the Oliveo, the Batavia Voetbal Club (known as the B.V.C.), Hercules, Vios, and Sparta. These form the first division of the league, and, with the exception of the B.V.C., they each have a second team, competing with Mars, Thor, and Swift in the second division. The first division of the league compete annually for a cup presented by the Dry Dock Company of Tandjong Priok, and the second division for one given by the well-known booksellers, Messrs. Visser & Co., of Ryswyk and Batavia. The winning teams last year were Oliveo and Mars respectively. In addition to these competitions, the firm of Aquilar & Co. presented a shield to be played for on the "cup" system. This was also won, in 1908, by Oliveo. Among the leading players in this country may be mentioned Stom, the captain of Oliveo, who "skipped" the Dutch International XI. against England in 1907; and Kamperdyk, of the B.V.C., another well-known Dutch International, who has played more than once for Holland against Belgium.

The game is assiduously played the country over, Semarang, Bandoeng, and other towns having clubs and even leagues.

CRICKET.

It is a curious fact that while football, essentially a winter sport, has achieved so wide a popularity, cricket, the summer game *par excellence* of the English people, is almost utterly neglected in Batavia. It may be, perhaps, that cricket requires a longer apprenticeship, and more leisure than the Hollanders are disposed to devote to it. There is in Batavia a Dutch as well as an English cricket club, but in each case tennis courts are provided on the ground, and these are the chief

attraction for the members. Cricket is only played spasmodically, at such times, for instance, as when the planters of the Preanger, captained by Mr. Bingley, pay the club a visit; while tennis is a favourite and constant form of recreation. In Batavia, the British and Dutch Clubs are both located at Koningsplein, by the courtesy of the Government. The former dates from "prehistoric" times, when the British were a power in the land; the latter is but in its early youth.

GOLF.

The royal game has but few adherents in Batavia. The links, such as they are, comprise a four-hole links on Koningsplein, whereon a couple of men usually make a "Sabbath day's journey," but that is all. The best links on the island are at Tjandie, the property of the Semarang Golf Club. The champion golfer in Java is Mr. Rose, who has won the blue ribbon nine years in succession.

COMMERCIAL : EUROPEAN.

MACLAINE WATSON & CO.

At a moderate estimate fully one-half of the sugar output of Java, which amounts to upwards of a million tons, is exported by MacLaine Watson & Co., a British firm established in Batavia since 1825. They carry on a general import and export business, and are shipping and insurance agents, but their speciality has always been their trade in sugar, and in this department they may rightly be regarded as the leading firm in the whole of the Dutch East Indies. They own several important sugar estates and sugar factories in the neighbourhood of Semarang and Sourabaya, and have agencies in all the principal towns of Java. For two years after their establishment, the firm were known as G. MacLaine & Co., but they have been trading under their present title since 1827. At Sourabaya they are

branches at Semarang and Sourabaya and agencies throughout Netherlands India. They are also the managing directors of four well-known mining companies in Sumatra—the Mijnbouw Maatschappij, a diamond mining company which last year paid a dividend of 71 per cent., the Redjang Lebong, M. M. Ketahoen, and M. M. Simans, all in the residency of Bencoolen.

JOHN PEET & CO.

THE distinction of being regarded as the "father" of the tea trade, for which Java, with its many remarkably productive tea estates, has become famous, lies with an Englishman—Mr. John Peet, who, forty years ago, founded in Batavia the house of Messrs. John Peet & Co. Mr. Peet himself now resides in London, but he still takes an active interest in the conduct of the business. The firm export various kinds of products from Java, but always they have made a speciality



OFFICES OF GUMPRICH AND STRAUSS.

HOCKEY.

Hockey is still in its infancy, having been started in Batavia about four years ago by Mr. P. C. Adrian, as an adjunct of the Batavia Sports Club. In 1907 a new club was formed by Mr. A. M. G. Gyselman, with Mr. W. M. Killick as captain. This year has seen a great increase in the popularity of the game, and both the Oliveo and the Batavia Football Clubs have hockey teams. At present the game is played under what are presumably Dutch rules, with a big, soft ball and both sides of the stick. The game is exceedingly popular among ladies, who play regularly and with amazing energy.

known as Fraser, Eaton & Co., and at Semarang as McNeill & Co.

Mr. J. H. Loudon, one of the partners in the enterprise, now manages the Batavia business. A member of the firm, too, in Batavia, has always held the post of British Consul, the duties of that office being carried out at the present time by Mr. J. W. Stewart.

ERDMANN & SILCKEN.

ESTABLISHED for upwards of seventy years, this firm occupy a very important place among the commercial houses of Java. They are large exporters of sugar and have

of tea and everything associated with the tea trade. They are the managing directors of tea estates in all parts of the island, including such well-known properties as Malabar, the largest cultivated tea estate in Java, Wanasoeke, Perbawatie, Daloen, Gedeh, Pasir Salam, Singaparna, Djiboegel and Djiogreg. All of the estates are now owned by local companies, but Messrs. Peet & Co. founded most of them and still retain a controlling voice in their management. The firm import tea seeds and all articles used on tea estates, and are the sole agents in Netherlands India for Marshall, Sons & Co., Gainsborough, and Davidson & Co., Belvast, tea machinery. They are also agents for the Marine Insurance

Company, Ltd., London, and for the British and Foreign Marine Insurance Company, Liverpool, and in this capacity are able to insure their own cargoes.

The manager of the firm in Batavia is Mr. A. C. van der Hout, while Mr. Th. D. Inklaar holds the position of procurator holder.

ROWLEY DAVIES & CO.

As it is with the sugar trade of Java, so also is it with the tea industry; in both of these important departments of activity in Netherlands India English firms occupy foremost places. Messrs. Maclaine Watson are admittedly the largest private house engaged in the sugar trade, while a very considerable proportion of the tea crop passes through the hands of Rowley Davies

themselves the owners of what in all probability will be, in a few years, the largest tea estate in the Indies. The property which is about 10,000 acres in extent, is situated some fourteen miles from Buitenzorg, on the boundary of the Preanger Regency, Java's best tea district, and is known as the Tjiwoeng Java Plantations, Ltd. Only 750 acres are planted as yet, but it is intended to bring a much larger area into cultivation in the near future. At its highest point the estate has an elevation of 5,500 feet.

The partners in the firm are Messrs. F. Worthington and W. Hilliers. Their head offices are in London, and besides their business in Java, they have branches in Calcutta and Colombo. The managers of the firm in Batavia are Messrs. C. H. Taverner and E. J. Balliston. Their local

sale of timber. The Borneo Company, Ltd., were the first to adopt in Netherlands India the system now followed by most other timber companies of treating the rough logs by machinery instead of having them squared by axe in the jungle. The trade of the Company at Sourabaya is confined to teak. At Batavia the Company deal in teak, but carry on a large general export trade also. They do not, however, interest themselves in piece goods or in the import trade.

The manager for the Company in Batavia is Mr. W. B. Ramage.

GUMPRICH & STRAUSS.

THIS well-known German firm have been carrying on an extensive trade in Netherlands India for over sixty years. They import



SOME MEMBERS OF THE EUROPEAN COMMERCIAL COMMUNITY IN BATAVIA.

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| 1. C. W. DULL (E. F. Buyn & Co.). | 6. B. VLIELANDER HEIN (Partner, Gyselman & Steup). |
| 2. C. H. TAVERNER (Rowley Davies & Co.). | 7. L. J. LAMRACH (Head Agent, Koninklyke Paketvaart Maatschappij). |
| 3. J. J. W. VAN BENNEKOM (Manager, Dunlop & Kolf). | 8. J. P. J. VAN MAANEN (Partner, Gyselman & Steup). |
| 4. C. O. HEUVELINK (Director of the Gas Company). | 9. E. J. BALLISTON (Rowley, Davies & Co.). |
| 5. F. KATENKAMP (Manager, Behn, Meyer & Co., Ltd.). | |

& Co.—another English firm—before being exported from the island. Rowley Davies & Co. were not established in Batavia till 1904, but, during the past five years, their name has become well known throughout Java and Sumatra. They are the only firm which have made a speciality of tea buying on a large scale for export, and naturally their influence on the local markets is considerable. The trade, too, owes much to them on account of the pioneer work they have accomplished in the exploitation of centres where previously Java tea found few buyers. They not only purchase tea for export direct but by growing crops, and are

offices are in the Kali Besar, where they have unusually light and spacious godowns, splendidly suited for storing and packing tea.

BORNEO COMPANY, LIMITED.

THE Borneo Company, Ltd., so well known in Singapore, Siam, Sarawak, and many other parts of the Far East have large interests in Netherlands India. They have had offices at Batavia, where they act as Lloyd's agents, for about half a century, and have also a branch in Sourabaya, where the Company's teak mills are situated and where they do a large trade in the export and

goods largely from America, Europe and Japan, and export practically every variety of Javanese produce. In addition, they are interested in the cultivation of tea and coffee and are the owners of several tea and coffee and cinchona bark plantations. The firm's headquarters are at Batavia, and they have branches at Sourabaya under the name of K. Hinlopen & Co., and at Frankfurt-am-Main (Germany).

The founders of the firm were Messrs. Gumprich & Strauss, and they personally conducted the business until 1862, when it passed into the hands of Mr. Rudolph Still. Upon the death of Mr. Still, in 1892, the



1. THE STAFF.

2, 3, and 4. VIEWS OF THE BAMBOO HAT FACTORY, TANGERANG.

5 and 6. OFFICES AND SAMPLE ROOMS, BATAVIA.

OLIVIER & CO.

business became the property of his widow and two sons, and has since been managed by Mr. O. Still at Batavia, and Mr. F. Still at Sourabaya.

SOCIETÀ COMMISSIONARIA D'ESPORT- AZIONE DI MILANO.

THIS firm devote the whole of their time and attention to the piece goods trade. Their head offices are at Milan, and they import large quantities of goods from Italy and Manchester. Their branch in Batavia was opened in 1909, and it still remains the headquarters for the firm's trade in Netherlands India. They have also branches at Semarang and Sourabaya, and at Singapore, Shanghai, and Buenos Ayres.

The Manager for the Company in Batavia is Mr. G. R. Reid.

PHILIP BELTON & CO.

MESSRS. PHILIP BELTON & Co., a firm established in Batavia in 1904 by Messrs. P. Belton and C. Venning, are largely interested in the export of tea and all other locally grown produce, with the exception of sugar.

They are especially concerned in the growing trade with Australia, and import considerable quantities of Australian flour, which they find is able to compete with that of America and Hungary, both in price and quality.

Mr. P. Belton spends most of his time superintending the firm's interests in Europe. His partner, Mr. Venning, is in charge of the local business.

OLIVIER & CO.

ALTHOUGH for many years previously Olivier & Co. had been engaged, through the agency of middlemen, in buying Java produce for the European, American, and Australian markets, they were not directly represented in the island until 1901. It was in this year that Messrs. Le Goff and Clemens were sent from headquarters to open a branch for the better control of their interests in the important and rapidly increasing export of bamboo hats. Tangerang, the centre of the hat-making industry, was chosen as the place where the new office should be established. The enterprise flourished, and Messrs. Olivier & Co. quickly became one of the most important firms in Netherlands India engaged in the bamboo hat export trade. They now buy up to about ten thousand hats a day in Tangerang, and export four thousand cases of hats each year. In 1908 Mr. Le Goff returned to the European business, leaving Mr. Clemens as general procuration holder at Tangerang.

Encouraged by their great success, the head office, in 1905, sent out a manager and staff to open a branch in Batavia to take charge of the export trade and to import articles required by the Javanese. Under the able management of Mr. S. C. Moet, this business has also prospered greatly. The firm export pepper, both black and white, coffee, cotton (kapok), rubber, damar, ground-nuts, tapioca, cacao, and many other products, and import woollen and cotton fancy and staple goods, bric-à-brac and odd artistic knick-knacks. The Batavia branch has established connections with all parts of Java and its dependencies, and the firm's trade mark—a balloon—carried by all goods imported by them is well known throughout the archipelago.

With regard to the general standing of the firm, it is sufficient to say that Olivier & Co.

can look back upon a record of over sixty years' activity in different parts of the world. Their headquarters are in Paris, and beside their offices in Batavia and Tangerang, they have branches in Florence, London, New York, Shanghai, Hongkong, Tientsin, and Ningpo, and agencies in nearly all the large commercial centres. The name of the firm has been changed several times. From 1847 to 1860, it was Muller; in 1860, what had been until then a private enterprise became a company—Muller & Co. From 1869 to 1889 the firm was known as Olivier, Muller & Co., and from 1889 to 1899 as Olivier, de Langenhagen & Co. Trade has been conducted under the present style of Olivier & Co. since 1899.

HAAKMAN & VON NORDHEIM.

THE firm of Haakman & Von Nordheim were established in August, 1908, when the proprietors took over the interests of a company which had been operating successfully in Batavia for a number of years, so that from the beginning they have had the conduct of a large and important trade. This, too, under the new and enterprising management, has been steadily increasing. Besides acting as the managing directors for several tea estates, the firm are large buyers of all kinds of Java produce, and export very considerable quantities of copra. Among the other principal articles in which they deal are pepper, gum damar, hides, skins, rice, straw hats, sugar, and coffee. The firm have a branch office at Tjilatjap.

The partners in the undertaking are Messrs. F. Haakman, Van der Bergh and R. W. von Nordheim.

DE LANGE & CO.

THE firm of De Lange & Co. have been carrying on business in Batavia as importers, general commission agents, and Government contractors since 1878. Their name is well known for their interests in various parts of the island, are extensive and varied, while all with whom they have had commercial dealings hold them in the highest repute. Among other things they are sole agents for Hemmoor and Colonia cement; Nobel's dynamite, and Favier's safety explosives.

The partners in the enterprise are Mr. J. M. H. van Oosterzee and Mr. T. A. F. de Bruine.

WELLENSTEIN, KRAUSE & CO.

MESSRS. WELLENSTEIN, KRAUSE & Co., like many other firms in Batavia, devote the greater part of their attention to the Java sugar trade. They, however, also carry on business as general merchants and export all classes of produce, and are, in addition, the managing directors of a number of agricultural and tea estates. They started trading in Batavia in 1882, and three years later opened their branch office in Sourabaya. The manager of the firm is Mr. G. Külsen, the Vice-Consul for Spain, in Batavia.

TIEDEMAN & VAN KERCHEM.

THE firm of Tiedeman & Van Kerchem have secured for themselves a prominent place among the merchants of the island. In one way or another they are interested in practically all the products of Java. They are the managing directors of many well-known tea estates, the associate-managers of two sugar properties, and they are connected directly or indirectly with the cultivation of rubber, coffee, cocoa and rice. Principally, however, they are

concerned with tea cultivation. It is as tea growers that they are generally regarded, and tea is the produce they ship in the largest quantities.

The firm were established in 1851. They have offices in Amsterdam, where one of the four partners, Mr. F. A. van den Berg, resides. The remaining partners in the enterprise, Messrs. J. P. Jannette Walen, S. W. Zeveryn and R. von Hemert, supervise the business in Batavia. The firm are selling agents for a quinine factory at Bandoeng, and, in Batavia, they are the agents for the Koloniale bank, Labauchere, Oyens & Co.'s bank (Amsterdam), and for several European insurance companies.

Messrs. J. P. Jannette Walen and S. W. Zeveryn are also directors of two local marine and fire insurance companies—the Netherlands Indies Sea and Fire Insurance Company, and the Second Netherlands Indies Sea and Fire Insurance Company.

BURT, MYRTLE & CO.

A VERY extensive trade is done in Netherlands India with Manchester piece goods, but Messrs. Burt, Myrtle & Co. are the only house in Batavia who devote themselves exclusively to this particular kind of business. They make a speciality of everything that comes from the Lancashire cotton mills, and by their association with the well-known Manchester firm of Myrtle, Burt & Co. are kept closely informed of every movement in the cotton markets both at home and abroad. The Company were established in Batavia in 1844, and during their long record of activity they have not only opened branches, which are now doing a flourishing business, in such large centres as Sourabaya, Semarang and Cheribon, but have secured a high reputation and important connections in all parts of the Dutch East Indies.

The manager for the firm in Batavia is Mr. W. M. Killick, who previously to coming to the Far East was for many years connected with the Company's Manchester office.

HERMANN ROSENTHAL.

No reference to the import and export trade of Java which aimed at giving some descriptive detail of the chief companies engaged in that trade would be complete without a mention of the business carried on by Hermann Rosenthal. The firm has been established for many years, and has grown to very considerable proportions. It deals largely in all Java produce, but devotes principal attention to the export of sugar, coffee, and copra.

The sole proprietor of the enterprise is Mr. Rosenthal. He superintends the general conduct of the business from the head offices in Batavia. The procuration holders at headquarters are Messrs. G. Lamberger and Y. P. A. Paris. The firm has flourishing branches at Sourabaya, Semarang, Tjilatjap, Macassar and Amsterdam.

BEHN MEYER & CO., LTD.

It is scarcely a year since this enterprising German firm opened a branch in Batavia, but already their business in Netherlands India has assumed large dimensions. As in Singapore, they are the agents for the Norddeutscher Lloyd Company; they have purchased the interests of the firm of Hellferich and Rademacher, and are now carrying on an extensive import and export trade. Their headquarters are in Batavia, but already they have offices in Sourabaya and Telok Betong, S. Sumatra and agents in most of the important towns of the Dutch East Indies. Their



GYSELMAN AND STEUP.

1. SAMPLE ROOM, BATAVIA.

2. SEMARANG OFFICE.

3. MANAGER'S OFFICE, BATAVIA.

4. SOERABAYA OFFICE.

exports include all Java products, but principally copra and pepper. Judging from the result of their first year's operations the Company have cause to congratulate themselves upon having extended their activities to this Colony. Their long record has given them a high reputation in other parts of the Far East, and doubtless in a few years the firm will have become as well known in the Dutch possessions as they are now in the Straits Settlements.

Mr. Fr. Katenkamp, the manager for Behn. Meyer & Co., in Java, has been in the service of the firm, in various parts of the East, for the past fifteen years.

GIJSELMAN & STEUP.

ONE of the best informed and one of the largest firms of general brokers in Netherlands India are Messrs. Gijsselman & Steup. They have been carrying on business in Batavia for the past twenty years, and have more recently opened offices in Sourabaya and Semarang. They have no less than eight brokers in their service. The present partners in the enterprise are Messrs. J. P. J. van Maanen and B. Vlieland Hein, in Batavia, and Th. G. H. Stibbe, who has charge of the business in Sourabaya.

The firm have large dealings in practically every product of Java which is exported either to Europe, America, British India, China, Japan or Australia, but treat principally with sugar, rice, coffee, pepper, and copra. Much of the rice from Rangoon and Saigon which comes to Java also passes through the hands of their brokers.

They do a large business in exchange and in shares, and are exceedingly well informed regarding the standing of many of the limited companies, estates and mines in the Dutch East Indies. They publish regularly interesting and valuable statements with respect to sugar and coffee production, copra and pepper exports, and the Billiton tin sales. No pains are spared to ensure the accuracy of these statistics, the compilation and publication of which have always been regarded by the firm as a special feature of their trade. As an example of the tables they produce from time to time, and in order to show how exceedingly valuable they are to business houses, their report on the export of copra for 1908 is given here. All other Java products are dealt with in much the same manner:—

EXPORTS OF COPRA DURING 1908 (SHIPMENT).

Months.	Transhipped at Java from Celebes and elsewhere.		Transhipped at Macassar from Celebes and elsewhere.		Padang.	1908.		1907.
	Tons.	Tons.	Tons.	Tons.		Tons.	Tons.	
January ...	10,378	1,582	1,728	1,303	1,130	16,181	6,747	
February ...	7,040	500	1,359	606	1,438	11,033	7,813	
March ...	6,527	2,491	1,690	830	477	12,015	8,513	
April ...	4,488	1,506	1,203	690	505	8,452	11,847	
May ...	7,746	1,450	2,883	905	1,291	14,335	7,948	
June ...	8,428	2,023	2,988	1,050	907	15,396	8,092	
July ...	9,059	1,581	1,501	1,425	749	14,315	14,451	
August ...	7,041	2,520	1,982	1,137	1,155	14,195	8,223	
September ...	11,572	1,128	2,634	2,834	1,247	19,415	10,419	
October ...	6,967	1,055	1,847	1,194	1,162	12,225	12,073	
November ...	6,749	880	2,664	1,339	603	12,244	15,051	
December ...	9,236	694	1,387	3,272	607	15,196	6,500	
Total, 1908 ...	95,591	17,569	23,866	16,705	11,271	165,002	—	
1907 ...	71,119	14,751	14,500	9,100	8,207	—	117,677	

The tables make further comparisons and show the highest and lowest prices given for a ton of copra for a period of four years. The firm's statistics relating to the Billiton

tin sales also furnish some interesting information and instructive comparisons. In 1908 66,600 piculs of tin were sold at an average price of G.92.98 a picul; in 1907 66,700 piculs were sold at an average rate of G.122.48 a picul; in 1906 58,000 piculs at G.128.07 a picul; and in 1905 81,300 piculs at an average price of G.97.64. In 1905 G.88.43 was the average price at which 95,900 piculs were sold. In a long continuation of such tables Messrs. Gijsselman & Steup make it their duty accurately to reflect the condition of the local markets.

DUNLOP & KOLFF.

THE firm of general brokers carrying on business in Batavia and Sourabaya under the style of Dunlop and Kolff were established in 1878. They are largely interested in the sugar trade, and in connection with the firm of A. Prins & Co., of Semarang, they buy a considerable proportion of the Java cane sugar for MacLaine, Watson & Co. They deal extensively also in many of the other Java products—including rice, coffee, pepper, and gums. The position they hold among the brokers of Netherlands India is well assured. They sell and purchase stocks and shares in considerable quantities, and are in daily touch with Amsterdam through Messrs. Dunlop and Van Essen and Adolph Boissevain & Co.

The business was founded by Messrs. S. J. Dunlop and T. Kolff. The chief partners now are Messrs. J. Zilver Rupe and H. C. J. de Vaynes van Brakell Buys, both of whom are at Sourabaya, and Mr. J. J. W. van Bennekom, who is in charge of the Batavia Office.

E. F. BUYN & CO.

THIS firm of general brokers was established in 1900 by Mr. Buyn, who has been associated with the trade of Netherlands India, for some thirty years. The firm deals in all kinds of Java produce, but chiefly its interests lie in the sale and purchase of shares.

In the absence of Mr. Buyn the firm is represented by C. W. Dull, who occupies the position of manager and procurator holder. Mr. Dull has also, for many years, been connected with the broking business in the Dutch East Indies and the neighbouring British Colonies.

CARL SCHLIEPER.

THE firm of Carl Schlieper can look back

industries. They import into Netherlands India all classes of building iron, machinery, building materials, steel tools and, indeed, everything connected with the iron trade. They supply the Government with large quantities of goods of this character, and do a considerable business with the estates in the interior of the island. They represent some of the best-known makers of machinery for rice milling and for tea and sugar factories and, in Sourabaya, they have a special technical branch, in charge of an expert engineer for estate machinery solely. They are agents for Deutz Otto Motorenfabrik, and many other important European houses. Their head offices are at Remscheid (Rhine-land), one of the most important iron manufacturing cities in Germany.

The firm was established in Batavia in 1878 by Mr. Hermann Schlieper, and in Sourabaya some years later under the style of Carl Schlieper & Co. Mr. Hermann Schlieper retired from the business many years ago. The manager in Batavia now is Mr. A. Schildberg, while Mr. O. Burghoff has charge of the Sourabaya branch. The position of procurator holder is held by Mr. O. Witscher in Batavia, and by Mr. V. Sommer in Sourabaya.

BARMER EXPORT-GESELLSCHAFT.

THE Barmer Export Company, Ltd., have been in existence only since 1898, but they are the successors of Jacob Binger Sohn, which, established in 1735, was the oldest iron export company in Germany. The operations of the Barmer Export Company extend over a considerable portion of Central and South America and the Far East. They deal largely in Barmen hardware, and the advance the Company have made in recent years is an excellent proof of the high quality of the goods supplied.

The head offices of the Company are at Barmen and Hamburg, and they have branches in Batavia, Sourabaya, Semarang, Medan (Deli), Bangkok (Siam), and Havana (Cuba). In Netherlands India they import all kinds of agricultural implements for tobacco, tea, coffee, and rubber estates, machinery for sugar factories, and general iron goods. Each branch maintains a comprehensive stock of those articles in greatest demand in the local markets.

The branch in Batavia is in the charge of Mr. Fritz Küpper.

THE STANDARD OIL COMPANY OF NEW YORK.

THE growth of the oil trade in Netherlands India has of late years been considerable, and it is not surprising to find the Standard Oil Company of New York doing their fair share of it. For upwards of fifteen years the Company have been established in Batavia, and during that period have been represented by a large staff, principally recruited from America. For many years, prior to the establishment of their own offices, however, business was carried on through agents and brokers.

The trade of the Standard Oil Company in the Dutch Indies is entirely in case-oil, for the storing of which they have depôts in all the large towns and other suitable places. The manager of the Company in Batavia is Mr. P. H. Davis.

TAYLOR & LAWSON.

MESSRS. TAYLOR & LAWSON have the distinction of being the only European firm

carrying on business of their particular kind in Batavia. They are general engineers capable of undertaking all classes of iron work, including the erection of iron and steel structures, specialists in tea, sugar, and tile and brick machinery; boat and launch builders, and agents for the De Dion and Swift motor-cars, for the repair of which, and motor-cars generally, they have a specially equipped department. The firm have been in existence in Batavia for the past forty years, and their interests during this time have grown to such an extent that they now employ four European engineers on the regular staff, in addition to the usual counting house staff, and no less than 250 skilled workmen. They have carried out

is now one of the best examples in existence of the old-style Batavia residence.

BATENBURG & CO.

MESSRS. BATENBURG & Co. are a firm capable of supplying, promptly and efficiently, all the thousand and one requirements of a ship about to be placed in commission. Established in 1856, they are now, perhaps, the oldest and best known shipchangers and stevedores in Java. Some idea of the position they hold, and of the extent of their trade, may be gathered from the fact of their being suppliers to, among others, the Royal Dutch Packet Company, the Steamship Company "Nederland," the Steamship Com-

important insurance businesses in Netherlands India is that conducted by Messrs. L. M. J. van Sluyters. The firm have their chief offices in the Kali Besar, Batavia, and at Amsterdam, and branches at Sourabaya and Semarang, where their interests are represented by Messrs. Schiff & Co., and by Messrs. Van Haften & Co., besides numerous agencies in all of the principal places of Java and Sumatra, British India, China and Australia. They effect all manner of insurances—against fire risk on private dwellings, furniture, laundry goods, warehouses, factories, sheds, stocks, &c.; against sea risk on steam and other engines, cargo, freight, luggage, and cost of board and lodging in a port of distress, and against forwarding risks in the



SAMPLE ROOM AND OFFICE OF THE BARMER EXPORT GESELLSCHAFT.

from time to time numerous Government contracts for bridge and iron works, and have constructed many boats, steam-launches, pinnaces, and motor-boats. Their stock of materials for making and repairing machinery is a most comprehensive one. They make hand and steam pumps, supply boilers to sugar factories, and have a specially designed rubber creping machine, which has been used on several local plantations with good results. Their activities embrace almost every department of mechanical engineering. Their works include a fitting shop, a foundry capable of making castings up to five tons, a boiler shop, &c.

The manager of the firm is Mr. J. Adam; the assistant manager, Mr. W. Jenkins. The offices are situated between Batavia and Weltevreden, in what is quite an historical building. Formerly the country house of a Governor-General of Netherlands India, it

pany Rotterdam Lloyd, the Java-China-Japan Line, the North German Lloyd, and the German Australian Steam Navigation Company.

L. M. J. VAN SLUYTERS.

UNDOUBTEDLY one of the largest and most

shape of robbery and theft of securities sent by post, or burglary or robbery and theft of securities whilst in safes and vaults.

Some idea of the extent of the firm's undertakings is given by the following list of companies of which they are the managers:—

	Capital. Fl.	Reserve Funds. Fl.
East India Marine and Fire Insurance Company	3,000,000	148,255'44
Batavia Marine and Fire Insurance Company	1,500,000	168,775'35
Netherlands Lloyd	4,000,000	567,050'47
Java Marine and Fire Insurance Company	1,200,000	177,041'69
Fire Insurance Company "Ardjoeno"	500,000	80,621'07
Fire Insurance Company "Veritas"	1,000,000	105,417'32
Subscribed capital	11,200,000	
Joint reserve funds, 1907		1,253,767'34



HET JAVA-VEEM.

1. OFFICES AND GODOWNS, BANDOENG.

2. INTERIOR OF GODOWN, BANDOENG.

3. BATAVIA OFFICES.

4. OFFICES AND GODOWNS, TANDJONG PRIK.

The companies operate on joint account under their respective names.

The firm are also head agents in Netherlands India for an insurance company at Rotterdam; a Marine and Fire Society at Rotterdam; the Insurance Society Santhagens, Bake & Co.'s Gravenhaagse Maatschappij

The many connections which the four companies have with important European companies of high standing, allow the combination to accept risks to amounts far exceeding the statutory limits. The business results obtained in the last four years are shown by the following table:—

	1905.		1906.		1907.		1908.	
	Net Profit.	Dividend.	Net Profit.	Dividend.	Net Profit.	Dividend.	Net Profit.	Dividend.
	Fl.		Fl.		Fl.		Fl.	
Koloniale Zee & Brand Assurantie Maatschappij ...	23,882.64	6½	23,416.51	6½	29,368.03	7	29,169.79	7
Tweede Koloniale Zee & Brand Assurantie Maatschappij ...	23,586.39	6	21,990.50	6	27,900.47	6	28,178.47	6
Brand Assurantie Maatschappij de Oosterling ...	25,241.06	7½	21,376.48	7	26,803.29	8	26,417.99	8½
Brand Assurantie Maatschappij Insulinde ...	14,695.87	9	13,337.75	8½	18,243.68	10	18,436.98	12

for the insurance against fire and marine risks; the Western Assurance Company, Limited; the China Fire Insurance Company, Limited, and the British Dominions Marine Insurance Company, Limited.

JONKHEER A. PLOOS VAN AMSTEL.

THE Koloniale Zee en Brand Assurantie Maatschappij, founded in 1861, the Tweede Koloniale Zee en Brand Assurantie Maatschappij, founded in 1865, the Brand Assurantie Maatschappij de Oosterling, founded in 1866, and the Brand Assurantie Maatschappij Insulinde, founded in 1871, all of which companies have their headquarters in Batavia and separate boards of directors, have, since 1898, been managed by Jonkheer A. Ploos van Amstel. He is assisted in his work by Mr. H. J. Daum, who carries out the secretarial duties, and during the occasional absences of Mr. van Amstel takes over the managerial responsibilities.

Although the two first-mentioned companies, as their names indicate, and also the Oosterling, were originally meant to take marine as well as fire risks, and, during the first years of their existence, did so, the marine business, in consequence of heavy losses entailed, has since been abandoned. The four companies now limit their operations to fire insurance, and together form a combination based on mutual agreement, stipulating that in every risk taken by any one of the four companies each participates to a fourth part. The following statement shows the subscribed capital, 10 per cent. of which has been paid up. The statutory general reserves, the premium reserves, and the loss reserves are also shown up to December 31, 1908:

	Capital Subscribed.	Statutory General Reserve.	Premium Reserve.	Loss Reserve.
	Fl.	Fl.	Fl.	Fl.
Koloniale Zee & Brand Assurantie Maatschappij...	3,000,000	135,225.03	49,011.77	12,264.58
Tweede Koloniale Zee & Brand Assurantie Maatschappij ...	3,000,000	56,072.64	49,011.77	12,264.58
Brand Assurantie Maatschappij de Oosterling ...	2,405,000	174,043.55	49,011.77	12,264.58
Brand Assurantie Maatschappij Insulinde ...	1,000,000	100,000.00	49,011.77	12,264.58

The business field of the combined companies is limited to Netherlands India, Europe and the United States of America. The business outside Netherlands India is under the direct management of a general agent, Mr. Jan E. de Jong, who has offices at 173, Keizersgracht, Amsterdam.

business ever since. The present partners are two brothers, Messrs. P. Landberg and J. H. Landberg. The firm take an important part in the inter-island trade of Netherlands India, and their ships have for years held government contracts for carrying salt and other Government products. Their fleet at

the present time, consists of ten sailing ships of from 600 to 1,300 tons. They are probably the oldest shipping house now existing in Batavia for their first vessels commenced trading in 1845, although it was not until ten years later that the business was carried on under the present name. Messrs. Landberg en Zoon are also engaged in gold mining in the Celebes.

CEMENT TILE FACTORY.

THE Cement Tile Factory, situated in Gang Thibault, a small but busy thoroughfare between Batavia and Weltevreden, was established by its present owner, Mr. B. Sibenius Trip, some twenty-two years ago. He started his new enterprise in a very modest fashion with two primitive screw-press machines. These, however, were quickly replaced, and the machinery has been improved upon from time to time until now the factory is equipped with a 12-h.p. engine, pump-batteries, accumulators, and hydraulic presses with a pressure of 300 kilogrammes to the square centimetre. Indeed, there is no cement tile factory in Netherlands India where the work is carried on with a better or more complete apparatus. The tiles are as hard as iron, and the colours of the mosaic seem indelible, for they withstand any wear. At the Batavia Exhibition of 1893 the factory was awarded two silver medals, and in 1904, when the Government were building the Nursing Home at Tjikini, the chief engineer of the Public Works Department submitted the cement tiles of several factories to the most severe tests, and the tiles manufactured under the supervision of Mr. Sibenius Trip were found capable of withstanding a pressure of fully fifty kilogrammes to the square centimetre more than the others. In the factory there are also machines for breaking marble blocks, for grinding, polishing, and mixing mortar, and for mixing colours. In short the works may be said to be complete and up-to-date in every detail. Their production is over 3,000 tiles a day.

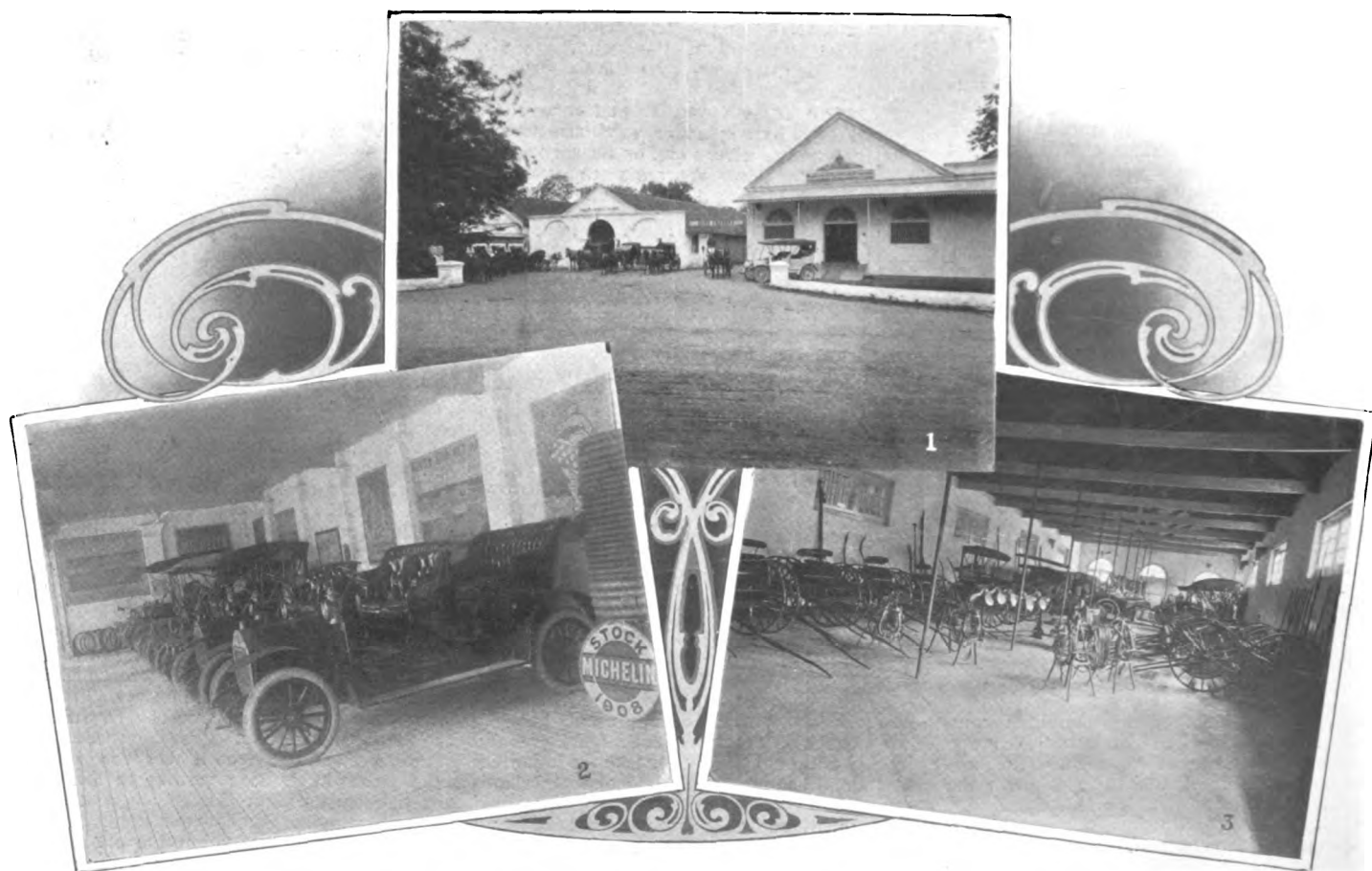
CARRIAGE COMPANY, FORMERLY F. J. FUCHS.

THE large business now conducted under the style of the "Carriage Company, formerly F. J. Fuchs" was started in a very modest way by Mr. F. J. Fuchs in 1868. At the commencement he had a small livery stable and a farrier's shop, that was all.

Enterprise and initiative, however, were brought to bear in the conduct of the undertaking with the most satisfactory results. First a shop for repairing and building carriages was erected, then one for the manufacture and sale of harness, and lastly Mr. Fuchs enlarged the scope of his activities by importing and selling horses. In 1885, with the assistance of Mr. W. van Heusden, who still remains on the board of directors, the business was turned into a limited liability company. Mr. Fuchs held the position of managing director of the Company until 1895, when he was succeeded by Mr. J. W. Rens. In 1897, Mr. Fuchs severed his connection with the Company entirely. In a very short time, however, he was once more engaging in business, lending his support to, and enlarging a rival carriage-building establishment, carried on under the name of Mr. Snelthage in Parapattan. But this enterprise never prospered, and in 1900 it was wound up, all the stock in trade reverting to Mr. Fuchs as the sole creditor. He sold it to the Company bearing his name, which Company thereupon opened a branch on the old premises.



VIEWS OF THE TILE FACTORY OF B. SIBENIUS TRIP.



CARRIAGE COMPANY, FORMERLY F. J. FUCHS.

1. HEAD OFFICE AND WORKS.

2. MOTOR GARAGE.

3. CARRIAGE AND HARNESS DEPARTMENT.

Mr. J. W. Rens managed the business very successfully for seven years. In 1902 he was succeeded by his brother, Mr. D. Rens, the present managing director, who in his turn has introduced many improvements and advanced the interests of the Company generally. The Company is now quite up-to-date, and not only includes in its activities the sale of automobiles and carriages, but does a good trade also in Australian horses and cows. The Company makes use of some 32,580 square metres of ground, of which 15,811.27 square metres are occupied by buildings, stables from 90 to 110 horses daily, and finds constant employment for about 160 people.

E. DUNLOP & CO.

It was only last year that the firm of E. Dunlop & Co. reached their majority, but their growth has been remarkable, as, during this comparatively short period of twenty-one years, the business has been extended to, and is now flourishing in, all the more important towns of Netherlands India. The Company are general importers and sell all manner of goods—wines, spirits, cigars, cigarettes, sporting goods, bicycles, Japanese curios, travellers' requisites, and so forth, in both wholesale and retail quantities. Their stores in the different parts of Java are well known; the articles for sale are attractively and conveniently arranged, and customers have never yet had cause to feel dissatisfied at the manner in which their wants have been met. The firm started operations in 1887 in Batavia, where their head office is still situated. They have now a branch at Weltevreden for the retail trade; both wholesale and retail departments at Sourabaya, a branch at Semarang, and one also at Bandoeng devoted solely to the sale of wines and spirits, provisions, cigars and cigarettes. The oldest of these branch establishments is that at Bandoeng, which was opened in 1896; the wholesale department at Sourabaya was started in 1899, and the retail store the following year; while at Semarang the Company commenced business as recently as in 1908. The retail stores are conducted under the name "Nederlandsch Indisch Sigaren Magazyn filiaal E. Dunlop & Co."

The founder of the firm was Mr. E. W. Dunlop, and his son, Mr. E. W. Dunlop, is now procurator holder at the head office. The general management of the business is entrusted to Mr. J. R. Mikkers, who has been with the Company for twenty-one years, while Mr. J. Lotman is manager at Sourabaya, Mr. G. Hendriks at Semarang, and Mr. L. W. E. F. C. Klokke van Steenwyk at Bandoeng. Their agent in Amsterdam is Mr. W. Ader, Singel 342.

Among the many important agencies which the Company hold are those for Pierre Chabanneau & Co.'s Brandy XXX.; the Isle of Skye whisky; Usher's whisky; Munro's whisky; House of Lords brand; Campbell whisky; Amstel beer; Wittkampff gin; Henkes gin; Dunlop gin; Bokma gin; Nols liquors; Gutierrez Hermanos invalid port; and for wines and sherries, and many different kinds of bitters; Bordeaux, Greek and Italian wines; champagnes, and brandies. They are also sole agents for Patria biscuits; Maconochie's provisions; Korff's cocoa and chocolate tablets; Swiss Milk (Beer brand); and for the cigarettes from the celebrated factories of A. G. Cousis & Co., at Malta; Th. Vafiadis & Co., and Melachrino & Co., in Egypt; besides for numerous brands of English, Turkish, and Russian cigarettes, and Dutch, Manila, and Havana cigars.

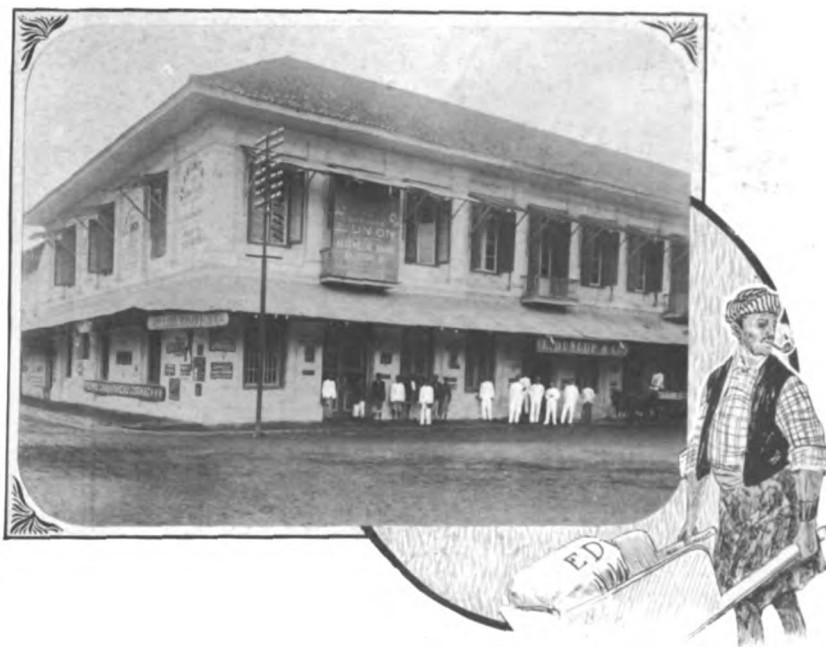
WINKEL-MAATSCHAPPIJ "EIGEN HULP," LTD.

THOSE well arranged, elaborately equipped "departmental" stores, formerly associated almost solely with American enterprise, have now found their way into most of the larger commercial centres of the East. Their popularity, which is undoubtedly, is thoroughly deserved, for they offer to the public such conveniences as were undreamt of a few years ago. Under one roof may be found almost any article that can be required for the ordinary purposes of life.

Batavia is not behind the other cities. The stores owned by the Winkel-Maatschappij "Eigen Hulp" compare very favourably with any to be found in Singapore, Hongkong, or Shanghai. The headquarters are in Molenvliet, opposite the Harmonie Club, while a branch is situated in Noordwijk, the principal thoroughfare in Weltevreden. There are no lifts to take the customer from room to room, but such are unnecessary. The stores are constructed on a simpler plan

drinks, and all articles for household use. The Noordwijk branch makes a speciality of house furniture and its permanent exhibition of Djatti wood furniture made in Batavia is perhaps the most complete in Java. At the "Pasar Gambir" exhibition for home-made furniture in modern style in 1907 the Company secured the gold medal. There is also a special department at the Noordwijk store for packing and sending goods to the interior and abroad. The two establishments have long been recognised as among the most attractive places for shopping in Batavia. In both the stock is kept up to date and is always tastefully arranged.

The Company, which carries on business also as auctioneers and commission agents, was founded in 1890 and has a paid-up capital of G. 500,000, with a reserve fund of about G. 22,000. Its sales in 1906 amounted approximately to G. 520,000; in 1907 to G. 540,000 and in 1908 to G. 610,000. dividends of from 4½ to 7½ per cent. being declared each year. The board of directors comprises Mr. W. van Heusden (chairman), Col. J. J.



E. DUNLOP & CO.'S HEAD OFFICE, BATAVIA.

than in the British Colonies. There is apparently not so much need for saving ground space, and the buildings, which cover comparatively larger areas have all their principal departments arranged on one floor.

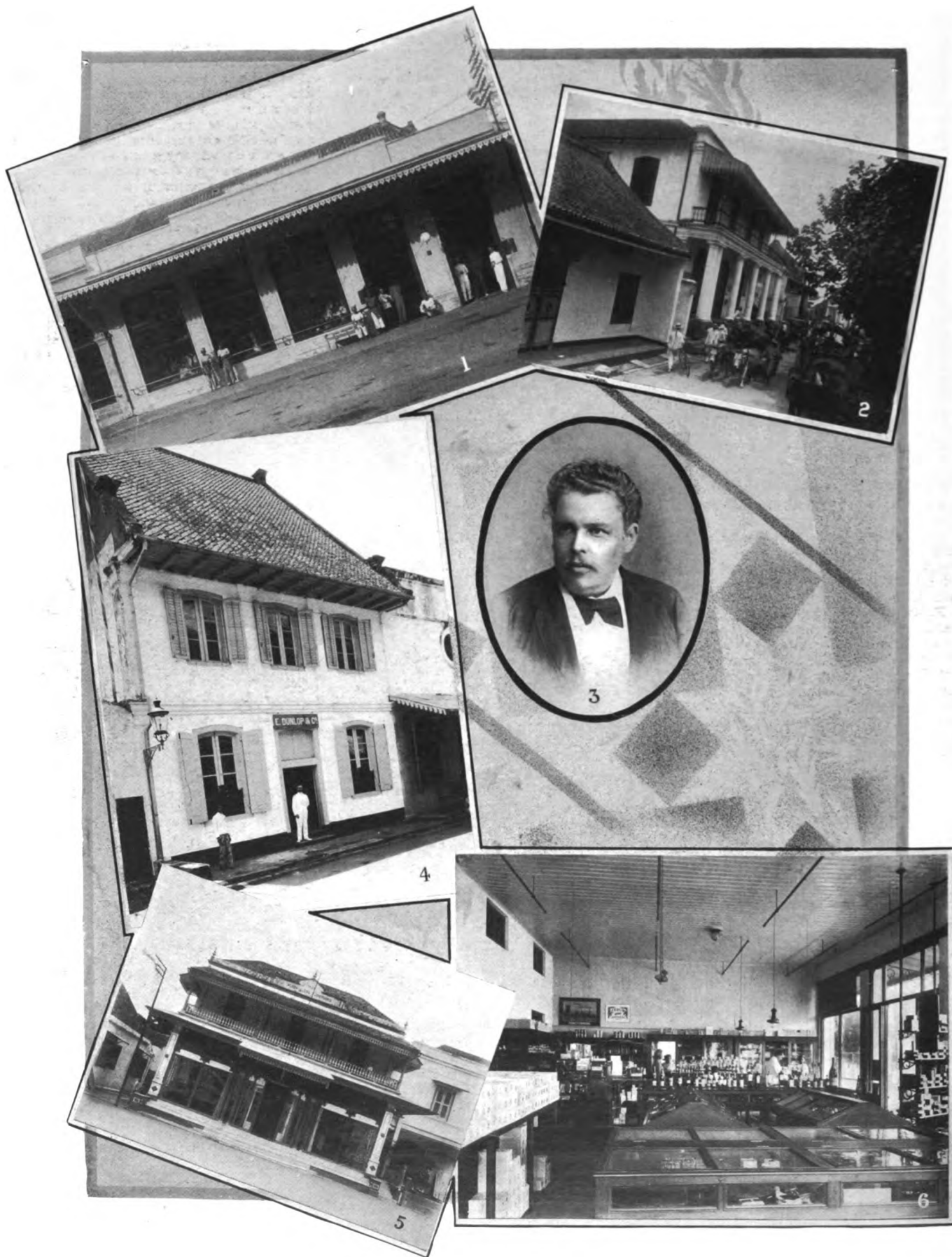
The Winkel-Maatschappij Eigen Hulp import objects of art and luxury from the most prominent firms and factories in Europe, and the whole of the front portion of their Molenvliet store is taken up with the display of these. They are the sole importers in Batavia of the well-known specialities of Liberty & Co. There is a special department for ladies, one part of which is a dressmaker's establishment, while the other is given over to the sale of hosiery, millinery, and other feminine requirements, the Royal Worcester American corsets, or which also the firm are the sole importers, being stocked in great variety. A few yards further on comes the department for gentlemen's requisites, and behind this again a toy store. At the back a space is reserved for provisions,

K. Enthoven, Mr. J. P. Boissevain, Mr. C. R. Buss and Mr. F. Neumann. The head manager and secretary to the board of directors is Mr. J. M. H. van Oosterzee. Mr. W. Winters carries out the duties of manager, and Mr. F. Salomonson those of assistant manager.

DE WINKELMAATSCHAPPIJ "ONDERLINGE HULP."

THIS retail trading Company which has adopted for its title, or, rather, its motto, the words Onderlinge Hulp, "mutual help," was established in Batavia just about a quarter of a century ago, and has a capital of G. 300,000 and believes in small profits and quick returns.

The headquarters of the Company are situated in an excellent position on Noordwijk, and for the sake of convenience have been divided into four distinct departments: the gentlemen's department, the ladies' department, the general department, and the toy



E. DUNLOP & CO.

1. RETAIL STORES, WELTEVREDEN.
2. RETAIL STORES, SOURABAYA.
3. The late MR. E. DUNLOP (founder of the firm).

4. RETAIL DEPARTMENT, BANDOENG.
5. WHOLESALE DEPOT, SOURABAYA.
6. WHOLESALE STORES, SEMARANG.



WINKEL MAATSCHAPPIJ "EIGEN HULP," WELTEVREDEN.
(FRONT VIEW OF THE MOLENVLIET STORE.)

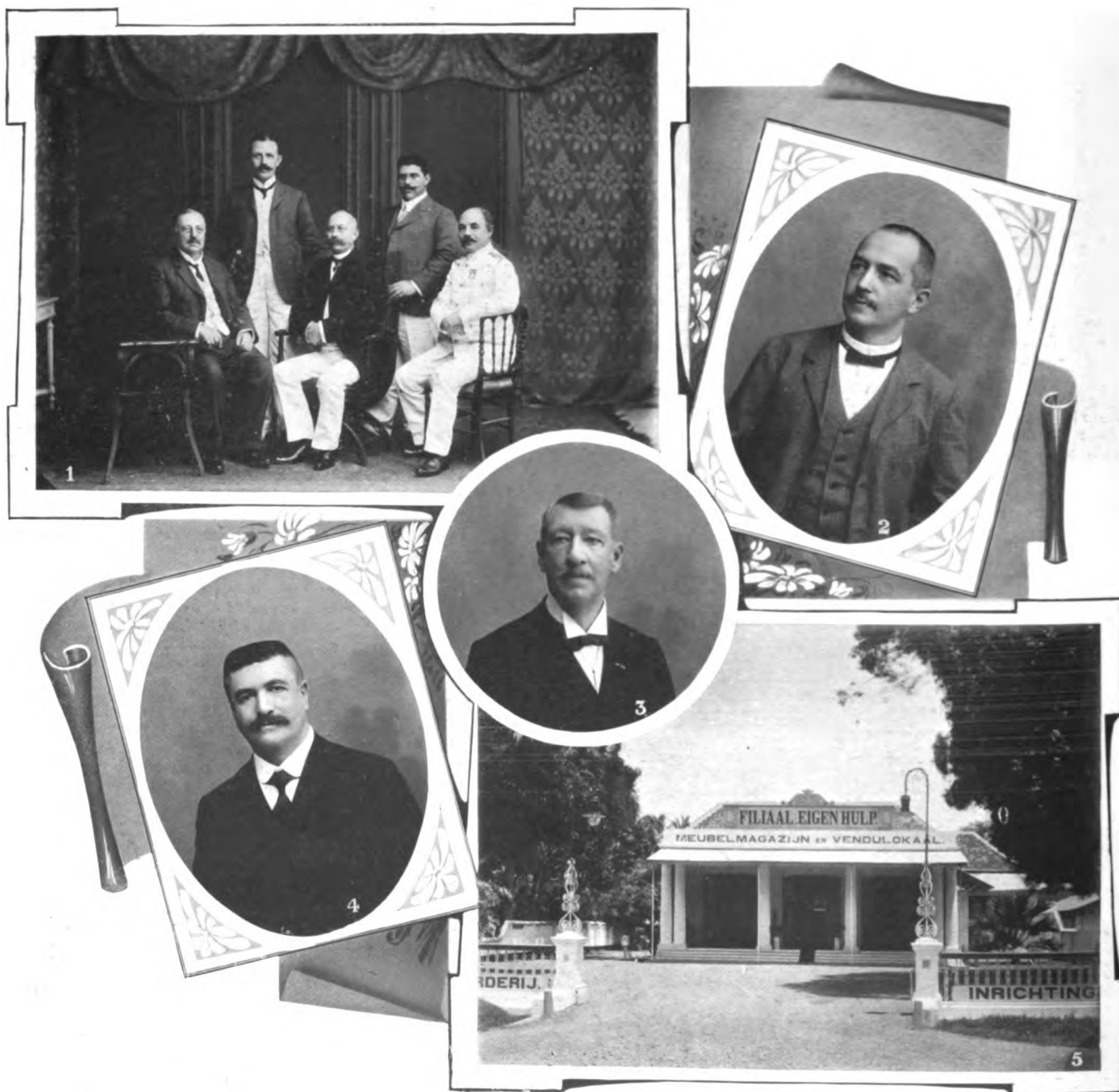
shop. Of these, that devoted to the requirements of the ladies is the largest and most elaborate. The stock is a well-assorted one, and almost every week fresh designs in dress are brought from Paris. In the gentlemen's department are to be found travellers' and sportsmen's requisites in great variety. Here, too, clothes may be made to measure or purchased ready made. The tobacco store, which may perhaps be termed a branch of

collection of crockery, mirrors, pictures, carpets, articles for domestic use such as kitchen utensils, filters, ice machines, &c., while in the toy shop all sorts of ingenious contrivances for the amusement of children are stored.

VAN ARCKEN & CO.

THE "Tiffany" of the East is the description which, with some considerable amount of

firm, and by a continued patronage have expressed their satisfaction at the manner in which their wishes were carried out. In 1854 the firm received permission to bear the Royal Arms from His Majesty the late King of the Netherlands, and similar distinctions were accorded them by Her Majesty the Queen Dowager in 1893, by Her Majesty Queen Wilhelmina in 1904, and by their Majesties the King and Queen of



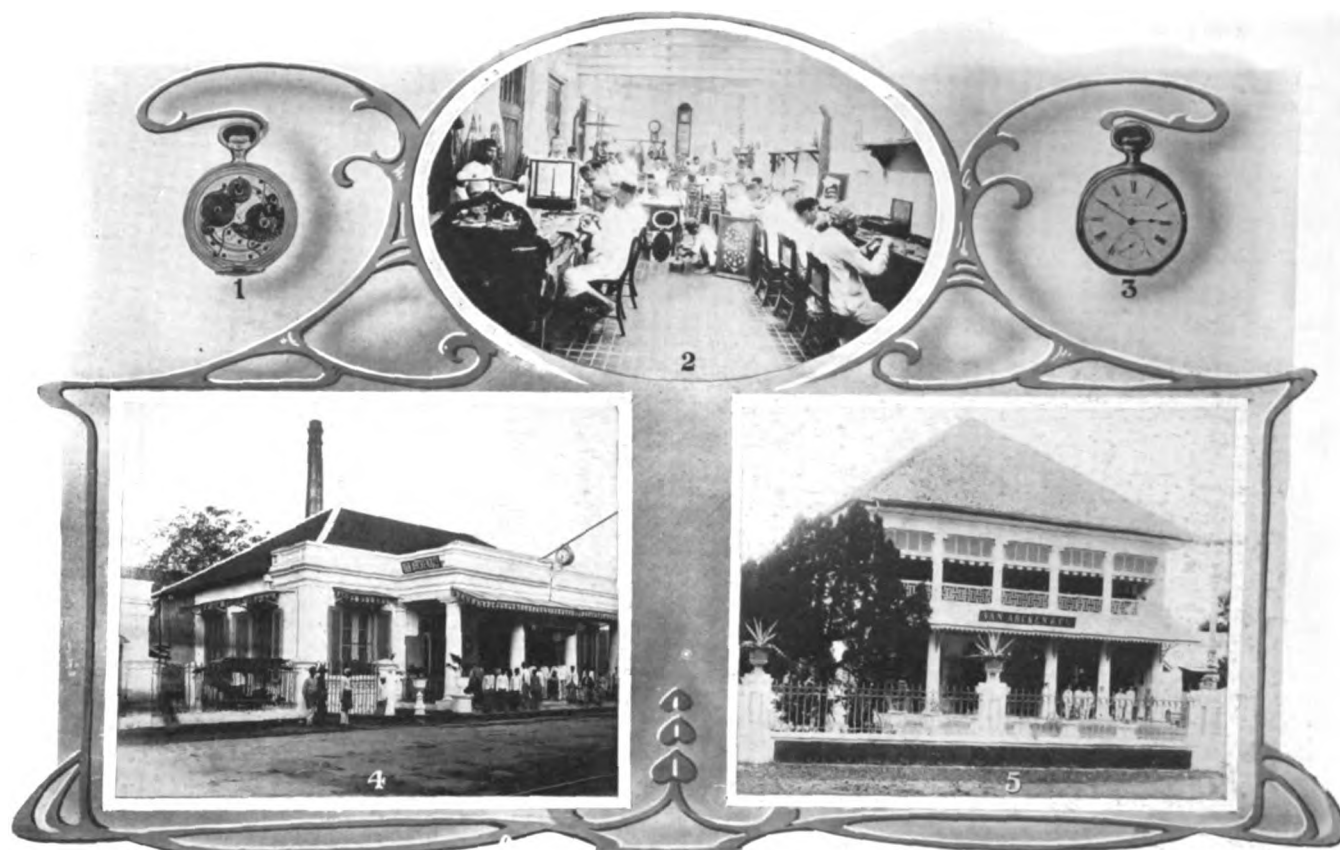
WINKEL-MAATSCHAPPIJ "EIGEN HULP."

1. BOARD OF DIRECTORS. — J. P. BOISSEVAIN, W. VAN HEUTSDEN (Chairman),
COL. J. J. K. ENTHOVEN, C. R. BUSS, AND F. NEUMANN.
2. W. WINTERS (Manager).
3. J. M. H. VAN OOSTERZEE (Head Manager and Secretary to the Board of Directors).
4. F. SALOMONSON (Assistant Manager).
5. NOORDWIK BRANCH.

this particular department, is well known even outside of Netherlands India, and the Company have a number of regular customers for cigars in different parts of British India. In the general department, there is a fine

justice, has been given of the house of Messrs. Van Arcken & Co., the well-known gold and silversmiths of Batavia. From time to time, many representatives of Royal families have placed large and valuable orders with the

Siam, who, during their tour in Netherlands India, paid several visits to the store in 1896. Moreover, Van Arcken & Co. are gold and silversmiths, watchmakers, and engravers to His Excellency the Governor-General and the



1 and 3. "ZENITH" WATCH.

2. FACTORY. 4. SOERABAYA PREMISES.

5. BALAWA PREMISES.



1. FRONT VIEW OF PREMISES.

2. SHOWROOMS.

3. WORKSHOP.

V. OLISLAEGER & CO.

Government of Netherlands India, and since 1861 have held the appointment of Court jewellers to the Sultans of Soerakarta and Djocjakarta.

The high quality of the work carried out

in addition they are watch and clock makers, and deal extensively in silver plate and cut glass ware. For repairs, for making various settings and for fashioning different designs in gold and silver, they have their own workshops

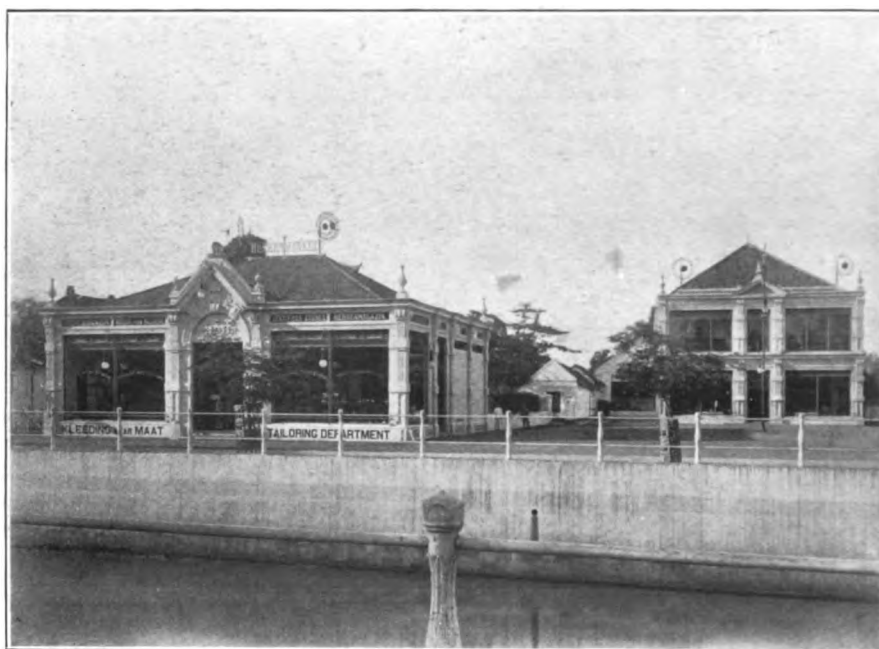
fashions; now, however, that improved means of communication bring the latest modes more quickly to the notice of the residents in the colonies, a distinct change is noticeable. Those who formerly seemed content with local stereotyped articles now sigh for the pretty novelties of Paris and London and fashion plates are eagerly studied and copied.

The firm of Van der Veen, noting the change, were quick to profit by the opening thus afforded them. Having a direct connection with the principal dressmaking establishments in Paris, Berlin, and London, they were soon able to meet any reasonable demand, and in a very short time have become one of the principal ladies' dressmakers in Batavia. The firm have large premises, managed by two first-class European dressmakers, where everything connected with a lady's toilet can be made up at the shortest notice. About sixty native needlewomen and a few men are employed, so that a whole costume can easily be completed within a couple of days. The firm also have a department for ready-made costumes and hats.

Travellers need have no fear that the exact nature of their requirements may be misunderstood, for, with the sole purpose of enabling them to supply the wants of the tourists, the firm employ a linguist who speaks English, French, and German fluently.

AUG. SAVELKOUL.

A PERFECT fit, a fashionable cut, and excellent workmanship are the three things guaranteed by the gentlemen's outfitting and clothing establishment of Aug. Savelkoul. What more could even a dude require? The firm have been in existence in Weltevreden since 1886, and the number of their patrons and the reputation they hold are proof that they can keep their word. Their premises, in-



MAATSCHAPPIJ "ONDERLINGE HULP."

by the firm is everywhere recognised. The founder of the business, Mr. C. G. F. van Arcken, received from His Majesty the late King of the Netherlands an equestrian order as a reward for his artistic productions, and that this old tradition of skilful workmanship is being carefully maintained is proved by the medals and first-class diplomas which have been awarded the firm's exhibits in various international competitions, one of the more recent being at Osaka, Japan, in 1903. Over fifty Malays, all of whom are under European supervision, are kept constantly employed in the firm's workshops. They are fine craftsmen, and it is well worth visiting the manufactory to see how dexterously and tastefully they can hammer out and fashion the most beautiful and intricate designs.

One other point, perhaps, may be noted with regard to the firm's enterprise. Messrs. Van Arcken & Co. have the monopoly for the sale in Netherlands India of the watches from the great Swiss manufactory, "Zenith." These watches, which represent the highest grade of perfection in timekeeping and excellence in workmanship, command a ready sale, and have everywhere given the greatest satisfaction.

V. OLISLAEGER & CO.

UPON two occasions, in 1865 and again in 1895, Messrs. Olislaeger & Co. have been awarded the highest prize for a general exhibit of jewellery at the Batavia Exposition. The firm have been established for considerably over half a century; during this period, they have built up a large and valuable trade, and their name is well and favourably known throughout the whole of Netherlands India. They are importers and retailers of jewellery of every variety, but their speciality is precious stones, of which they always retain a large stock, both mounted and unmounted. In

and a large staff of highly skilled native workmen under the supervision of a European manager and assistants.

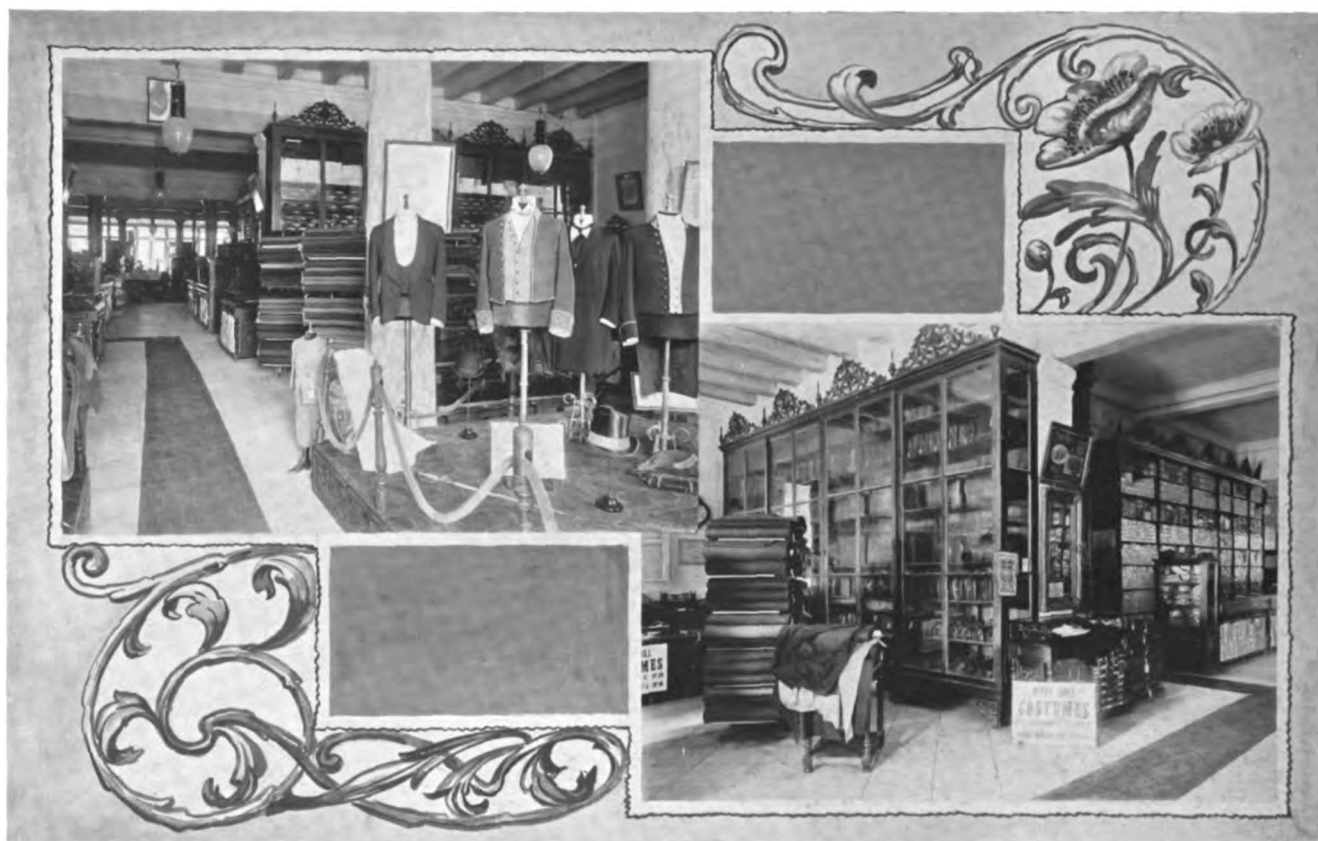


BUSINESS PREMISES OF VAN DER VEEN.

VAN DER VEEN.

BATAVIA admittedly was not so fashionable a town a few years ago as it is to-day. The ladies used not to trouble then about European

cluding the workshops, cover an area of over 2,200 square metres, and in their general style and equipment compare quite favourably with European houses. European "cutters" are employed and are engaged,



OUTFITTING DEPARTMENTS OF AUG. SVELKOUL, RYSWYK.



BUSINESS PREMISES OF A. HERMENT.
(With portraits of F. VERNIS and W. DE ROOY).

not only in making patterns, but also in superintending all the sewing work in the tailoring department. In the general outfitting department an especially large stock is maintained, and the traveller will be able to find there practically everything he may require on his journeyings.

Mr. Aug. Savelkoul, the proprietor of the

A. HERMENT.

THE tailors conducting business under the style of A. Herment, in Noordwijk, Weltevreden, may also be thoroughly recommended both to residents and tourists who are in need of well-cut clothes made from the best material and at moderate

and make clothes not only upon the European plan but in accordance with the American fashions also. Their stock includes many varieties of English and Scotch tweeds and suitings manufactured especially for use in the tropics, and a fine selection of linens and drills from the best makers in Europe. The business was founded in 1825. At the Batavia



1. SHOWROOM.

BOEKHANDEL VISSER & CO. RYSWYK.

2. FRONT VIEW OF PREMISES.

PRINTING DEPARTMENT.

business, was for some twelve years in Netherlands India. He is now in Amsterdam superintending his various interests there. The firm have branches in Sourabaya, Amsterdam, Strassburg, Antwerp, Liverpool and Pretoria.

prices. The present partners in the firm are Messrs. de Rooy and F. Vernis, both of whom were, for many years, connected with leading houses in Europe, and have since had considerable experience in the East. They are civil and military tailors,

Exposition, in 1865, the firm were awarded the bronze medal for their display of goods.

VISSER & CO.

THE visitor to Batavia may nearly always rely upon being able to find at Visser & Co.'s

any popular book he may require. It does not much matter in what language it may chance to be, for a very wide and varied selection of the best known volumes of English, French, and German literature is always kept in stock.

The Company were established in 1895. Gradually their enterprise has extended, until now their business as printers, lithographers, bookbinders, booksellers, stationers, and dealers in articles of European and Indian art is a very extensive one. Their headquarters are in Ryswyk, Weltevreden, and here their printing presses are all of the most modern type and are all driven by electricity. They have branch houses also in the old town of Batavia and in Weltevreden, where a similar business, although of course, on a somewhat more limited scale, is carried on. At Buitenzorg, they have a printing and book-

are coming in increasing numbers. The magnificent mountain scenery, the glorious wealth of tropical vegetation, and the numerous relics of an ancient and bygone civilisation fill them with delight, and they go away but to return again in larger numbers. And the visitors now have no cause to complain—as they might have done with justice not many years ago—about the lack of good hotel accommodation. The hotels in Batavia, the most convenient centre for a holiday tour through the island, are excellent. They compare favourably, and, in some of the advantages following upon their more peculiarly Eastern characteristics, are superior to those in any of the cities of Europe. The transformation has been effected largely through the foresight and enterprise of the managing director of what has often been described as one of the

bungalows, one storey high, were gradually erected in the form of a huge quadrangle. The public rooms, quite detached, now form the centre piece of this great square, and the whole of the intervening space is occupied by green lawns, the glory of which is a monumental waringin tree, capable of affording shade for a small village. But the visitors did not come in sufficient numbers to make such an enterprise profitable. Mr. Lugt failed in 1869, and from then until 1897 the hotel was conducted by the trustees on behalf of the creditors. The result was entirely unsatisfactory; the hotel was not adequately equipped or staffed, and many were the complaints levelled against the management during this interval. In 1897 a public company was formed to carry on the business, with a total capital of G. 675,000. There was never a sufficient margin of profit



HOTEL DES INDES, BATAVIA.

binding department and publish several periodicals. At all these establishments the technical work is always carried out under the direct supervision of European experts.

BATAVIA HOTELS.

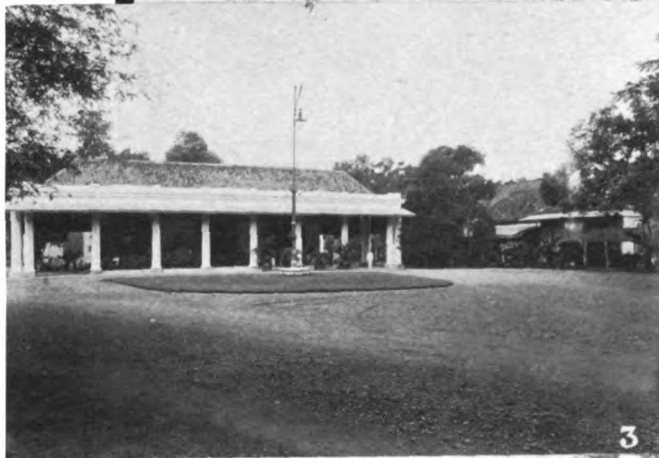
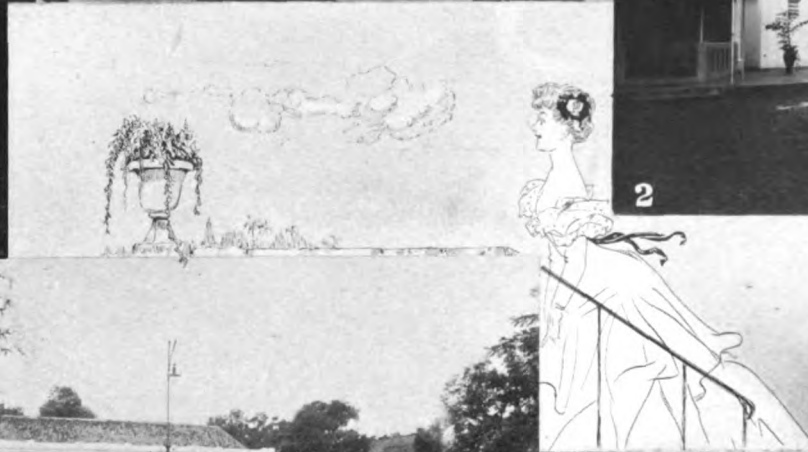
HÔTEL DES INDES.

GRADUALLY but surely Java's claims to attention are being recognised by the traveller. Fifteen years ago, the country was *terra incognita* to the great body of tourists, but since then steamship lines, spreading like a veritable network around the Malay Archipelago, have made these beautiful islands fully and easily accessible. Each year tourists

most delightful hotels in the East—the Hôtel des Indes. Mr. Gantvoort has wrought a revolution in the old methods of hotel management, as the shortest catalogue of the marked changes effected in the institution—for such the Hôtel des Indes has now become in Java—over which he exercises a personal control will sufficiently prove.

The Hotel des Indes was established considerably more than half a century ago. In those days, all the accommodation was provided in the central building, now utilised almost solely for the dining salon, the business offices and the kitchens. A former director, Mr. Lugt, commenced to build the hotel upon its present plan. Part of the site was occupied by an old Dutch school. This he purchased, and dainty and private little

at the end of a year's working, however, to warrant a dividend being declared. In 1903 Mr. J. M. Gantvoort became the controller of the hotel's destinies, and under his comparatively short but energetic *régime* a whole host of improvements have been effected. He has altered the place almost beyond recognition, and, for the first time in its existence, has placed the hotel on a paying basis. All the verandahs have been repaved; new bathrooms have been erected, and everywhere the best hygienic principles have been adopted in the rearrangement of the old methods of sanitation. The bungalows—many of which have been reconstructed in the form of handsome summer pavilions, are connected with the central building, the seat of the hotel administration, by electric bells,



HOTEL DES INDES, BATAVIA.

1. DINING HALL.

2. ROW OF PAVILIONS.

3. HOTEL ANNEXE.

4. A SINGLE PAVILION.

and to every two rooms one servant is attached. The hotel has accommodation for 140 visitors, and the staff numbers altogether no fewer than 155 persons, 15 Europeans, including three European cooks—a somewhat bold but admirable and, in this case, entirely successful departure from precedent, for which Mr. Gantvoort was responsible—and 140 natives. The hotel, with its livery stable, containing 50 horses and 40 carriages, its servants' quarters, motor garage and various other outbuildings, occupies no less than five acres of ground.

Mr. Gantvoort was formerly a tobacco planter, and even now bankers somewhat after the freedom and open-air life of his former calling. Before taking up his present position at the "Indes," he was for ten years manager of the *Hôtel du Pavillon*, at Semarang, so that his experience of the catering business extends altogether over a period of sixteen years. He has not been content, however, simply to exercise his ingenuity in catering for the wants and looking after the comforts of visitors upon their arrival. He was largely instrumental in bringing the claims and manifold attractions of Java to the attention of the tourist world, for it was mainly through his agency that the Tourist Bureau, which has already accomplished so much, was established in Batavia. In five years, it is confidently anticipated by those best able to judge, the accommodation in Java will be strained to its uttermost to cope with the influx of visitors. With the tourist, of course, comes increased activity in many directions. An impetus is given to trade generally, and, certainly, anyone who has helped to bring about such a desired consummation may be regarded as having materially contributed towards the prosperity of the island.

HOTEL DER NEDERLANDEN.

THERE is little to choose between the two or three leading hotels in Batavia. Every one who has been to Java recognises the high standard to which they have attained, while many of the visitors in their enthusiasm declare emphatically that there are no hotels equal to them to be found anywhere in the East. If Java does fail to become one of the most popular of recognised holiday resorts it will not be on account of any lack of enterprise on the part of the hotel managers in the capital city of the island.

The Hotel der Nederlanden, which was established as far back as 1840, has grown gradually from a comparatively insignificant building to be one of the largest hotels in Netherlands India. It is in many respects a model house, and no one who has stayed there has had anything but the highest praise either for the comfort and cleanliness of the bungalows in which the visitor is accommodated or for the general manner in which his wants have been attended by the quiet, alert and obliging Javanese servants, of whom more than 140 are employed. The hotel has always been privately owned, and as it has passed from one owner to another it has been altered and enlarged and certain portions rebuilt until now it bears little resemblance to the original building. In the old days the only entrance to the hotel was from Ryswyk, the leading business thoroughfare in Weltevreden, but to make room for the necessary extensions additional ground was purchased until at length the property was carried right through to the broad road encircling Koningsplein. Now the hotel occupies a strip of land measuring no less than 340 metres in length and 80 metres in

breadth. Only one wing of the old structure remains at the present time, and even this will be demolished during the coming year and its place taken with a line of attractive pavilions. The bungalows and pavilions are much sought after by the visitors, and it is but natural they should be, for with their wide and secluded verandahs, separate bathrooms, and complete isolation they combine the comforts of private residences with the conveniences and advantages of hotel life. A pavilion consists of a sitting and bedroom with a private bathroom, while a bungalow comprises three rooms. As the hotel stands at present it has 104 rooms, most of which are sufficiently large to provide accommodation for two people. The buildings have been arranged upon that excellent plan which is familiar throughout Netherlands India. Ground is comparatively cheap and a generous quantity has been utilised, so that plenty of open space is guaranteed. The result is altogether pleasing, for the hotel appears like nothing more than several lines of dainty villas erected round well-kept lawns. The grounds are tastefully laid out, and the entrance from Koningsplein especially, with its wide avenue of palms and plants, presents a charming picture of tropical growth.

The spacious dining hall, which forms the chief part of the central building, is capable of seating two hundred people. The kitchens are under a European chef and European assistants, and all European dishes, in addition to the favourite "riz-tafel," are served. For the convenience of business men the hotel have opened a titin room in the old town. It is situated near the Kali Besar, in the heart of the commercial quarter, and has proved a great boon to many residents.

The hotel is lighted throughout with electricity, and has its own livery stables and motor garage. There are two large and powerful cars, capable of seating seven people, for hire, and the management are now importing a motor omnibus for meeting trains and steamers as well as motor waggons for carrying luggage. The hotel has a special depot at the wharf at Tandjong Priok for storing goods. Runners speaking English, French, German, and Dutch meet both trains and steamers, and passengers will save themselves quite a considerable amount of trouble and anxiety by placing themselves immediately under the direction of the hotel servants.

Mr. A. F. Merten, the energetic and genial proprietor of the Hotel der Nederlanden, has had twenty-one years' experience of hotel management in Java. He purchased his present property fifteen years since, and the high reputation the hotel enjoys to-day is due solely to the careful way in which he has supervised personally every detail in the conduct of the business. Mr. Merten is now busily engaged in building another hotel or sanatorium at Lembang, at the foot of the volcano Tankoeban Prahoe and at an altitude of 4,200 feet above the level of the sea. Lembang, which is about ten miles distant from Bandoeng, is certified by medical men to be one of the healthiest spots in Netherlands India. It enjoys an excellent climate—dry, bracing cold, and has many certain attractions for the tourist. The scenery in the neighbourhood is magnificent; there is an abundance of good shooting and as many opportunities for mountain climbing as the traveller of average activity will desire.

GRAND HOTEL JAVA.

THE Grand Hotel Java, which was established in 1834, is the oldest of the three leading hotels in Batavia. But it has much besides its age to

recommend it. One of its distinct features is that all of the rooms are built on solid platforms raised some four feet from the ground, thus rendering them more cool and healthy, and there is no hotel in the town, probably no hotel in the island, which has so many private bathrooms in comparison with the total number of rooms in the building. The plan of giving each room a private bathroom is certainly being adopted now by the other large hotels, as alterations and improvements are made in their internal arrangements, but in the "Java" a bath room will be found with almost every room, whether new or old.

The hotel, which during its seventy-three years' existence has been rebuilt on several occasions, and is, at the present time, still being altered and improved, occupies an excellent situation between Koningsplein and Ryswyk. It thus has the benefit of the cool breezes which come across Ryswyk from the sea and of the refreshing wind which blows uninterruptedly over the great open space in the Garth, for, built on the excellent plan, common in Netherlands India, the hotel covers a wide area of ground and has a frontage of 83 metres on either side. With Government officials and residents in Netherlands India it has always been popular, and, formerly, there was little accommodation for tourists by reason of the large numbers of local people who were continually requiring apartments. Now, however, the additions which have been made make it possible for the management to cater for this class of trade, and when the buildings under contemplation are completed there will always be a regular series of excellent rooms at the disposal of travellers. Within the last two years all the older parts of the hotel have given place to long lines of commodious, airy, and comfortable pavilions, splendidly adapted to the requirements of families. At the present time, the hotel has seventy rooms, with accommodation for about one hundred and twenty people.

The dining hall, which is situated in the main building, is shortly to be converted into a billiard room, and a new and more spacious dining salon has already been planned to take its place. The kitchens have just been entirely rebuilt. They are large, well ventilated, well arranged, and are under the charge of an expert chef. In the reading room there is always a good supply of Dutch, English, French, and German papers and magazines, all of which languages are spoken fluently by the hotel officials. In every way the convenience of the visitor is studied. Telephones are installed in all parts of the building; there is a well-equipped dark room for the use of amateur photographers, and large and well-appointed livery stables where horses and plain or rubber-tired carriages may always be obtained. The hotel is quite close to the Weltevreden railway stations, and "runners" and carriages meet all trains, as well as the boats at Tandjong Priok.

COMMERCIAL: ORIENTAL.

KIAN GWAN.

THE firm of Kian Gwan have a right to be regarded as one of the leading and most important Chinese commercial houses in Netherlands India. They have been established for many years, and have a fine record and a high reputation. Their head offices are in Semarang, but their interests extend throughout the country, and branches have been established in all the principal towns. The firm engage largely in the rice trade. They own extensive rice-fields, and have a



HOTEL DER NEDERLANDEN, WELTEVREDEN.

1. A PAVILION. 2. THE AVENUE. 3. A. F. MERTEN, Proprietor. 4. DINING ROOM. 5. VIEW OF HOTEL FROM KONINGSPLEIN. 6. LOUNGE.



THE GRAND HOTEL JAVA, WELTEVREDEN.

large rice mill at Krawang fitted with the most modern machinery. They are contractors to the Government for the supply of rice at Banca; formerly they held the contract for Billiton also. Rice is also imported by them from Siam, Rangoon and Saigon for sale in the local markets. The Batavia branch of the firm, in addition, does a large sugar and general export trade.

HOAT HIN RICE MILL.

PERHAPS the largest rice mill in Batavia is the one established by Messrs. Lie Hin Pang and his brother Lie Hin Sian, some four years ago, under the name of the Hoat

and for many years past has held a prominent place in local Chinese commercial circles. At the present time he occupies the position of President of the Chinese Chamber of Commerce, and his high business qualities are everywhere recognised among his fellow-countrymen. Formerly, Mr. Lie was a Lieutenant in the Army and a member of the Town Council, but the many business responsibilities to which he had to attend occupied his time so completely that he was at last compelled to resign those offices. He and his brothers are the owners of considerable landed property, a silk factory and several other large commercial undertakings in and around Batavia.

Pasar Baroe, and they have branches in the commercial quarter of Batavia and elsewhere for the purposes of their retail trade, while business connections and agencies have been established by them in all the more important centres of Netherlands India.

The family of Lim Liang Boe is one of the best-known in the Dutch East Indies, various members having been prominently associated with trade enterprises in Batavia for the last seventy-five years. The business was founded by Mr. Oey Hoay (Soeij), the grandfather of the present manager, and the proprietor of the Batavia Trading Company. He was succeeded by his son, Mr. Lim Liang Boe, who has now retired and has handed



OFFICE OF THE KIAN GWAN, BATAVIA.

Hin Rice Mill. It is very conveniently situated close to the old town, at Panjarangan, on the banks of a creek which gives it direct water communication to the harbour at Tandjong Priok. The mill, which is in the charge of an expert Malay engineer, provides employment for a regular staff of twenty-four men in addition to about two hundred coolies. It is fitted with the latest class of American rice milling machinery, and has a capacity of 400 piculs in twelve hours. The proprietors hold contracts for supplying rice to the Government and to the Billiton and Banca districts, and are contractors also for the supply of rice to the Koninklijke Paketvaart Maatschappij. In addition, they sell considerable quantities locally, and export the remainder to Australia and the markets of Europe.

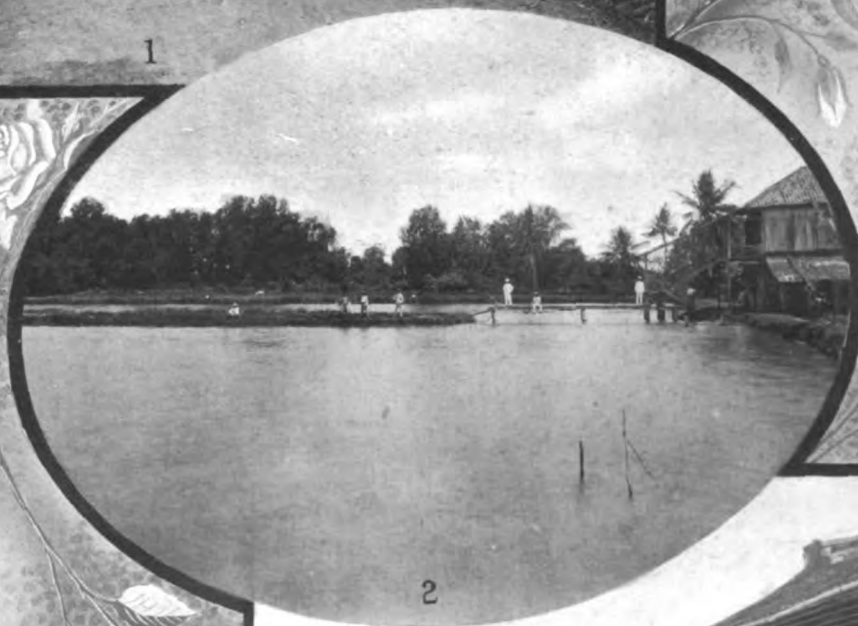
Mr. Lie Hin Pang was born in Batavia,

LIM LIANG BOE AND SON.

THIS well-known Chinese firm of general merchants have been doing a flourishing trade in Batavia for upwards of forty years. Their chief attention is devoted to the import and export of leather. They import leather very largely from Europe and Australia, and purchase a great number of hides locally, both for export and for the manufacture of leather at their extensive and well-equipped leather factory, which is situated close to the old town of Batavia. But while the firm make leather their speciality they have many other important interests. They deal in fish, and have a fishpond and station for curing fish close to the sea, while only last year they purchased a rice mill, equipped it with modern machinery, and commenced the granulation of rice. The firm's head office is in

over the management of the firm to his son, Mr. Lim Tjioe Wie. In his younger days, Mr. Lim Liang Boe travelled considerably, and is the possessor of a decoration received at the hands of the late Emperor of China on the occasion of one of his visits to his native land. He is well known as one of the most charitable men in Netherlands India, and has been a liberal supporter of many good works.

Mr. Lim Tjioe Wie was born in Batavia. He went to Amsterdam to complete his education, and remained there for some years until he had gained a working knowledge of the Dutch, English, and German languages. He took over the control of the firm immediately after his return from Europe. He is now assisted in his managerial duties by his cousin, Mr. Oey Tjioe Yong.



LIM LIANG BOE & SON.

1. LEATHER FACTORY NEAR OLD CITY.

2. FISH POND.

3. HEAD OFFICE, BATAVIA.



LIM LIANG BOE & SON.

1. DRAWING ROOM.
- 2 and 3. MR. AND MRS. LIM LIANG BOE.
4. LIM THIOE WTE (SON).
5. PRIVATE CEMETERY OF LIM LIANG BOE.

6. TOMB OF THE LATE OEY HOAY SOEY (Founder of the house of Lim Liang Boe).
7. OEY THIOE YONG (Nephew).

OEY GIOK KOEN.

CAPTAIN-CHINA OEY GIOK KOEN, one of the best-known Chinese residents in Batavia, and one of the few Chinese millionaires in Java, is the only son of Oey Oen Boen, alias Oey Ma Kouw, who was the fifth of six sons of Oey Tay Lo, formerly one of the leading Chinese merchants in Java. Captain-China inherited part of his fortune from his father, but it is to his own thriftiness that the great bulk of his wealth is due. He was appointed Lieutenant-China by the Dutch Government in 1884, and in the first instance carried out the duties attaching to that position in Kabayoeran. When raised to the rank of Captain-China he was transferred to the district of Meester Cornelis, but subsequently, at the request of the Resident, he was removed to Tangerang, in which locality most

HANDEL MAATSCHAPPIJ LIAN HIEN.

UNDER one name or another the Handel Maatschappij Lian Hien for the last twenty years have been carrying on a large and successful trade in almost every port between Java and Japan. They are known in Sourabaya and Semarang as Tek Yei Liong; in Singapore as Him Wo and Nam Chau; in Hongkong as Tek Hing Wo; in Canton as Lun Hing; in Kobe as Wing On Chong, and in Yokohama as Wing On Woh. The firm are general importers and exporters and deal in all kinds of Chinese and Japanese produce.

The two partners in the business are Lieut. Khoe A Fan and Lieuw A Yoeng, both of whom are directors of the rice mill known by the Chop Hin Liong. Lieut. Khoe A Fan is a Cantonese, and for some years he held the position of a magistrate in the Fokien

is the president of the Tjonggietjie Society, of the Gieseng Hok Tong or the Chinese School Society, and of the Kwong Djiu Hok Tong or Chinese Night School. All three associations owe a great deal to his assistance. Last year Mr. Lieuw was elected a vice-president of the Chinese Chamber of Commerce.

ANG SOEN HIAN.

THE firm of Ang Soen Hian, one of the oldest and most important of the Chinese houses in Batavia dealing in piece goods, was established by Ang Boon Tat, a well-known merchant, who, for many years, was prominently associated with Chinese commercial enterprises in Java. Upon his death, two years ago, his eldest son, Mr. Ang Soen Hian became partner in and manager of the business. He buys prints in large quantities from the local Euro-



OFFICE AND DRAWING ROOM OF SOUW SIAN TJONG.

of his plantations are situated. The Captain-China retired from the Chinese Raad three years ago. He is one of the original members of the Batavia Chinese Chamber of Commerce and one of the founders of the well-known Society Tiong Hoa Hwee Koan, in the educational work of which he takes a great interest. He is the president, too, of the Chinese Association, Tjoe Hoe Tee Beng, a kind of friendly society which maintains a fund out of which contributions are made towards the burial expenses of the members. Captain-China Oey Giok Koen although born in Java still takes an interest in the welfare of the "Fatherland," and he is a large shareholder in the Fukien Railway Company, Ltd., Amoy.

Province of China, where he is still known as Kioc-han Hiang. Now, however, he may be considered quite an old resident of Batavia. In 1904 he was appointed lieutenant under the Dutch Government, and has served on the Chinese Raad continually since then. He is also a vice-president of the Chinese Chamber of Commerce and of the Tiong Hoa Hwee Koan Society.

Lieuw A Yoeng, like his partner, also hails from Canton. Among his friends in China he is known as Leu Yuk Kwong, while his official name and the name under which he held the rank of Expectant Taotai is Liu Pang Chiong. For many years past he has taken the greatest interest in all educational movements among the Chinese in Java. He

pean houses and retails them to the native and Chinese shopkeepers. Mr. Ang Soen Hian, who owns considerable property in Batavia, is a member of the Tiong Hoa Hwee Koan Society.

KWEE SENG KIE.

THE Chinese are nothing if not versatile in their commercial pursuits. They all seem to possess in a remarkable degree the power for organising and successfully conducting quite a number of totally different businesses at one and the same time. The firm of Kwee Seng Kie is a case in point. The business, which has its headquarters in the quarter known as Pintoe Kitjil, was founded in 1902 by Mr. Kwee Hong To, the head cashier to the



1. PREMISES OF HANDEL MAATSCHAPPIJ "LIAN HIEN."
2. LIEUW A. YOENG IN CHINESE MANDARIN DRESS.
3. LIEUW A. YOENG.

4. LIEUT. KHOE A. FAN.
5 and 6. VIEWS OF LIEUW A. YOENG'S RESIDENCE.
7. LIEUT. KHOE A. FAN'S RESIDENCE.

Escompto Bank, and was handed over by him to his eldest son, Mr. Kwee Seng Kie. Now Mr. Kwee Seng Kie and his three brothers, who assist him in the enterprise, are not only large piece goods dealers; they are known throughout Netherlands India as the most extensive sellers of Government lottery tickets, and are also the managers of a native boat company founded by Mr. Kwee Seng Kie's father-in-law, which under the style of Kim Hok Hin carries on an important business in loading and unloading vessels at Tandjong Priok. As piece goods merchants the firm deal in wholesale quantities only, purchasing large stocks of all descriptions from European houses and selling them to the native and Chinese storekeepers. In their lottery transactions they have acquired a high reputation

merchant in Batavia. His career is interesting in so far that it illustrates how quickly some Chinamen with business instinct but with no special training may rise, even in a foreign country, to positions of considerable affluence. Mr. Tan Yan Goan was the son of a Hokien Chinese. At the age of fifteen years, he entered the service of a firm in Batavia as a cashier. Later, he became the owner of an ice factory at Pelodjo, and, within a few years, was contracting with the Government for the supply of materials for the Tandjong Priok harbour works. As will be seen, he did not follow one line of business for any length of time. His next venture was as the keeper of a Government pawnshop, and, after obtaining a little experience of such trade, he started a pawnshop on his own

with all manner of commercial and industrial enterprises in Java, and every speculation in which they have taken a part seems always to have been brought to a successful conclusion. The first member of the family to leave China for Netherlands India was Mr. Khouw Tjoen, the great-grandfather of Mr. Khouw Yaouw Hoen. He was engaged for some little time in business at Tegal, and then came to Batavia and started trading as a merchant. He was succeeded by his son, Mr. Khouw Tian Seck, popularly known as Teng Seck, who may, perhaps, be regarded as the real founder of the family's fortunes. He rapidly acquired large interests in Batavia, and became the owner of a great deal of ground in the very centre of the business quarter. This subsequently increased so



SAID ABDULLAH BIN ALOIE BIN ABDULLAH ALATAS, AND HIS RESIDENCE, TANAH ABANG, WELTEVREDEN.

for honesty and fair dealing, and under the title of the "White Cross" they have recently established an office for the better supervision of lottery tickets issued. The "White Cross" lottery is for a sum of Fl. 3,500,000 for which 350,000 tickets, costing Fl. 10 each were issued. Three hundred and eighty-nine prizes were allotted in the first fifty drawings, representing together a sum of Fl. 1,749,000. Only sixty-four prizes, however, have been claimed, a state of affairs which forms conclusive evidence that a great many persons are entitled to prizes without being aware of the fact. To guard against this in the future, Kwee Seng Kie are prepared to furnish holders of tickets with all requisite information regarding the drawings for payment of one guilder.

TAN YAN GOAN.

THE founder of the firm of Tan Yan Goan & Co. was for many years a well-known

account under the style of Tan Yan Goan & Co. Mr. Tan Yan Goan became a member of the Municipal Council of Batavia, and when he died he left a large amount of property to be divided between his six sons and six daughters, his estates including several rice plantations, of which, perhaps, "Poelo," "Gadoeng," "Klender," "Serpong," "Lenkong," and "Tjipeondeuj" were the most important. The firm, which is now in charge of Mr. Tan's second son, Mr. Tan Soen Hok, and his brother-in-law, Mr. Thio Soey An, still carries on a large business in advancing money on precious stones, jewellery, goods, and landed property.

KHOUW YAOUW HOEN.

MR. KHOUW YAOUW HOEN is the head of one of the most influential Chinese families in Batavia. For five generations past their representatives have been closely associated

enormously in value that without further effort on his part he was changed from a comparatively well-to-do into an exceedingly wealthy man. He purchased many rice plantations in and around Batavia, and upon his death the whole of this property was divided between his three sons—Khouw Tjeng Tjoan, Khouw Tjeng Kee, and Khouw Tjeng Po—the last-named being the father of Mr. Khouw Yaouw Hoen, who, as stated, is now the recognised head of the family. He had three brothers, but the eldest, Khouw Yaouw Kee, who for many years held the position of Captain-China under the Government, is now dead. His two younger brothers—Khouw Yaouw Tong and Khouw Yaouw Ho, live with him in the family house at Molenvliet West, and together they look after the family's interests. The brothers own a considerable amount of valuable property in Molenvliet. They have a rice plantation at Tangerang, called

Blaradja Boenijoe, which is some 8,400 acres in extent, and they are also the owners of the rice mill Ho Goan, situated at Penjarang, Batavia, and another mill called Ho Tay, and a plantation at Pebajoran, in the district of Bokassie. In all, they are the owners of three rice-mills, which turn out large quantities of both the highest grade and second quality rice for the European and the local markets. They buy rice from producers in Netherlands India as well as from Saigon and Rangoon, and dispose of something like 25,000 piculs each year to European firms for export alone. The firm's registered export marks for the finest quality rice are "M.K." and "H.G."; while for Australia they have the mark "H.G.P." Mr. Khouw Yaouw Hoen is married, and is devoting considerable care and money to the education of his children in order that they may be well equipped to carry on the family tradition, and to take charge of the manifold interests with which they will be entrusted in years to come.

KONG SENG BEE.

THE initials K.S.B. representing the firm of Kong Seng Bee, are well and favourably

known in many of the leading rice markets of the world. The business was founded in Batavia several years ago by Mr. Souw Sian Tjong and Mr. Khouw Oen Hoey. Its progress and development were very rapid, and now it has interests and connections in all parts of Netherlands India. The firm buys large quantities of rice locally, and also from Rangoon, Siam, and Saigon, and in addition exports hides and general Java produce.

Mr. Souw Sian Tjong, the active partner and manager of the business, is a native of Batavia. He is a vice-president of the Chinese recreation club, and a member of the Chinese Chamber of Commerce and of the Tiong Hoa Hwee Koan Society.

SAID ABDULLAH BIN ALOIE BIN ABDULLAH ALATAS.

THERE is a very considerable colony of Arabs in Batavia, including many merchants and traders with large interests in the country whose importance cannot be overlooked. Some of their families have been settled in Netherlands India for centuries. Said Abdullah bin Aloie bin Abdullah Alatas, who

may be regarded as one of the leading members of this community, is the grandson of Said Abdullah bin Aloie bin Alatas, a merchant, who came from Arabia to Java some seventy-five years ago. He was succeeded by his son, Said Aloie bin Abdullah Alatas, who extended the business of the house and eventually became the proprietor of a large estate planted with coffee, cocoanuts, rice, &c., known as Pondok Beton in Meester Cornelis. Upon his death, seventeen years ago, his wealth was inherited by the present head of the family. Said Abdullah bin Aloie bin Abdullah Alatas now has a fine residence in Tarah Abang, and owns considerable property in and around Batavia. He has nine children—four sons and five daughters. His eldest son, Osman Alatas, at present a physician in Saigon, was educated in France; his second son, Mohammad Alatas, studied as a mining engineer, in Liège, Belgium, and is engaged in his profession in Constantinople. The third son, Hachim Alatas, having obtained his diploma at the Agricultural College, Gembloux, Belgium, is now continuing his studies at the Paris University; while his fourth son, Ismael Alatas, is at present at school in Cairo.

TOWNS OF WESTERN AND CENTRAL JAVA.

BUITENZORG.



BUITENZORG, the seat of the Governor-General, is situated at an elevation of 800 feet above sea-level, and is an hour's train journey from Batavia. It has a good connecting road and the journey may be easily accomplished by motor-car.

even excepting those of Perndeningen. The gardens surround the palace of the Governor-General, and are reached in a walk of only a few minutes from the railway station. In one portion is the herbarium, and close to this a library of botanical works containing more than 20,000 volumes.

Established in 1817 by Professor Reinwordt, the gardens have been added to and improved by a long line of distinguished

the already priceless collection of treasures from Nature's storehouse of which the gardens boast. Not content with a mere show place for these specimens, however, the Government have established five mountain gardens where practical experiments in the cultivation of plants, vegetables, flowers, and trees are conducted by skilled scientists all the year round. These gardens are situated at altitudes ranging from 3,500 to 10,000 feet, and are thus able to produce results achieved, as a rule, only in temperate regions.

The palace of the Governor-General is an imposing white one-storeyed building. In front of it is a huge artificial lake, the surface of which is studded with lotus flowers and the delicate *Victoria regia*, and in the centre of this lake is an island displaying a wealth of red palm, feathery yellow bamboo and a dark green foliage which the water mirrors in ever-changing pictures. Away to the north-east of this pleasant scene, and acting, as it were, as a grim sentinel over the seat of temporal government, the great volcano Salak looms against the blue sky and casts a threatening shadow over the countryside.

Apart from its appeals to the botanist and the lover of nature, there is, however, little to interest the average visitor to Buitenzorg. It is a quiet, sleepy little town, used principally as a residential suburb of Batavia, and except on Tuesday and Friday evenings, when a military band plays in the public gardens facing the station, there is but little of life to be seen. The native quarter is well out of the town itself, and is so hidden as almost to escape notice. There are two hotels, the Belle Vue and the Chemin de Fer, both of which are, as a rule, full, and anyone who intends passing a night in Buitenzorg should take care to book accommodation beforehand.

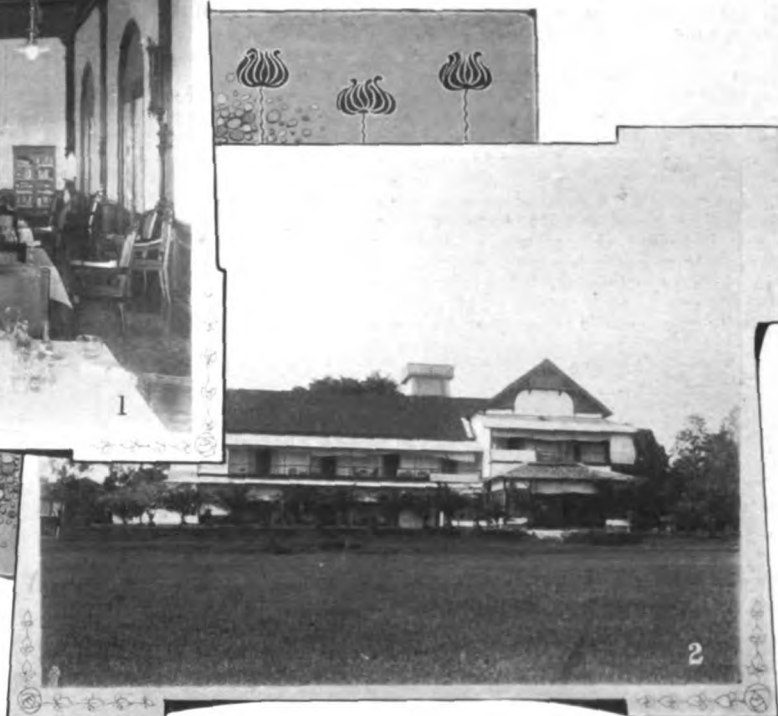
Buitenzorg has been the seat of Government since the year 1746.



MAARSCHALK-LAAN, BANDOENG.

The chief attraction of this beautiful highland town is its Botanical Gardens, acknowledged to be the finest in the world, not

botanists and scientists, while many of the most noteworthy arboriculturists of the present day have studied here and added to



HOTEL AND SANATORIUM "SELABATOE," SOEKABOEMI.

1. DINING ROOM.

2. FRONT VIEW OF THE HOTEL.



VICTORIA HOTEL, SOEKABOEMI.

1. DINING ROOM.

2. TYPE OF PAVILION.

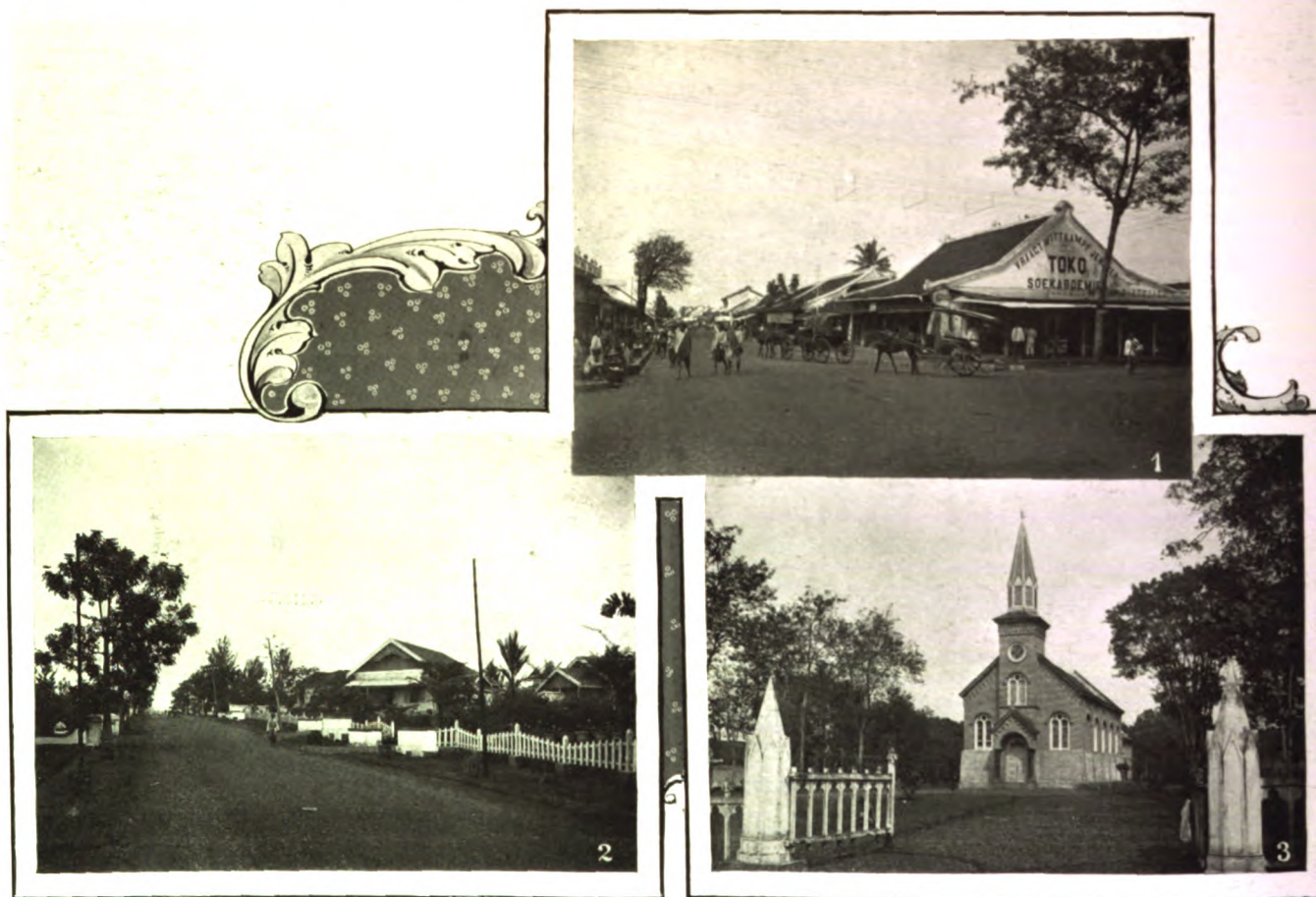
SOEKABOEMI.

THE natural beauty of its surroundings and its delightful climate justify Soekaboemi's title as the world's pleasure or recreation ground. It is a charming little township, a recognised health resort, and pre-eminently a favourite place for young married couples to spend their honeymoon. The existence here of three large flourishing hotels is sufficient testimony to its popularity, and during the holiday season their powers of accommodation are oftentimes taxed to their uttermost limits, so that intending visitors would do well to secure their rooms beforehand if they wish to avoid disappointment. The village, for it is little more, has none of that geometrical regularity characteristic of many of the towns

places are conducted upon what may be called the pavilion or bungalow system, which means that small and large bungalows containing from two to six rooms are at the disposal of the visitors. The cuisine is excellent. Many persons who wish to undergo the "open-air" cure make their headquarters at the Victoria Hotel, where tennis courts, a swimming bath, and many other forms of amusement are provided, and the luxury of a hot bath may be obtained. The tariff at the hotels is Fl. 6 a day, with special terms for long visits.

The Hotel Victoria was built in 1876 and the Hotel and Sanatorium Selabatoe in 1882. They became the property of Mr. A. A. E. Lenné some twelve years ago, and have been considerably extended by him.

province devoted almost exclusively to the cultivation of tea, it forms the natural headquarters of the planters, and on gala and feast days, or during the race-meetings when they all flock in from the neighbouring estates, there need be no complaint of dulness or lack of variety in the forms of entertainment. In 1884 the administrative offices of the western section of the State railways were removed here from Buitenzorg; later on came the quinine factory, an object of considerable interest, perhaps by reason of the fact that the secrets are so jealously guarded, the ammunition magazine at Tjikoedapateuh, and the Government establishment for preparing coffee (Gouvernements Koffiebereidings etablissementen). What might be correctly described as the "villa" quarter is yet



1. THE PASSAR BAROE.

SCENES IN BANDOENG.

2. MARDIBA.

3. PROTESTANT CHURCH.

in Java. For the most part, the houses are surrounded by gardens where bright flowers grow in great profusion. Even the kampong roads are good, and there is scarcely a district in the whole of the island where so many cool, pleasant, shady walks abound.

Situated some 2,000 feet above sea-level, Soekaboemi has an average temperature of 75 Fahrenheit. It is a splendid home for convalescents and everything has been done in the way of providing for necessary medical attendance. The Selabatoe Hotel and Sanatorium has been arranged especially for the convenience of invalids, and under the directorship of Mr. Lenné has won a high reputation for general comfort. It stands some 2,300 feet above sea-level. The Victoria Hotel, which is situated about a hundred feet below, is under the same management. Both

BANDOENG.

It is not hard to realise in the neighbourhood of Bandoeng why Java has been called the "wonderful." Like all places in the Preanger Highlands it is extremely picturesque. The numberless brooks fed by gaily splashing rivulets bring forth a vegetation that transforms the whole district into a beautiful hill garden. Situated, moreover, on the Tjikapoendoeng, a branch of the Tjitaraoen, at an altitude of 715 metres above the level of the sea, it possesses a cool and bracing climate, and furnishes a delightful retreat during the holiday seasons for those requiring a change from the enervating heat of the plains.

Bandoeng has a population of nearly 50,000 souls at the present day, and it is rapidly extending its boundaries. The centre of a

scarcely ten years old, and the Municipal Council, which now controls all local affairs is of still more recent establishment. During the last decade, private enterprise has provided the residents with electric light, and the demand for the current is growing rapidly. The town possesses five banks and five hotels, two newspapers, and four printing offices, a library, two churches, and several public buildings of quite large dimensions, so that it cannot be properly regarded as a pleasant "hill station" only; it is a thriving and prosperous little business community. Within the municipal boundaries are four Government schools with 659 pupils, a girls' school and several private schools for natives. The Institute for the Blind (Blinden Instituut), to which is attached a workshop for blind natives, was established in 1902;



SOCIÉTÉ FRANCO-NEERLANDAISE DE CULTURE ET DE COMMERCE.

1. OFFICES AT BANDOENG.

2. YOUNG RUBBER CLEARINGS AT TISAGA, BANDJAR.

3. YOUNG RUBBER PLANTATION AT TISAGA.

4. MANAGER'S RESIDENCE, TISAGA.

there is also a hospital for the blind, and an eye hospital which the Government has recently opened and placed under the charge of Dr. Westhoff. Sport is represented by the Preanger Racing Club, a shooting club, (schietvereniging), and several football and gymnastic clubs. The racecourse is situated about a mile out of the town, races being held yearly in June or July. Of social clubs there are two, the "Concordia" and the "Harmonie."

BANDOENGSCHE ELECTRICITEIT MAATSCHAPPIJ.

(Bandoeng Electric Company.)

BANDOENG, like other towns in Netherlands India, is dependent upon private enterprise for its supply of electric light. It must be admitted, however, that the Company—the

sions in the Company's plant and cables are continually being made.

The Directors of the Bandoengsche Electriciteit Maatschappij are Messrs. Maintz & Co. of Batavia. The capital of the Company is Fl. 300,000.

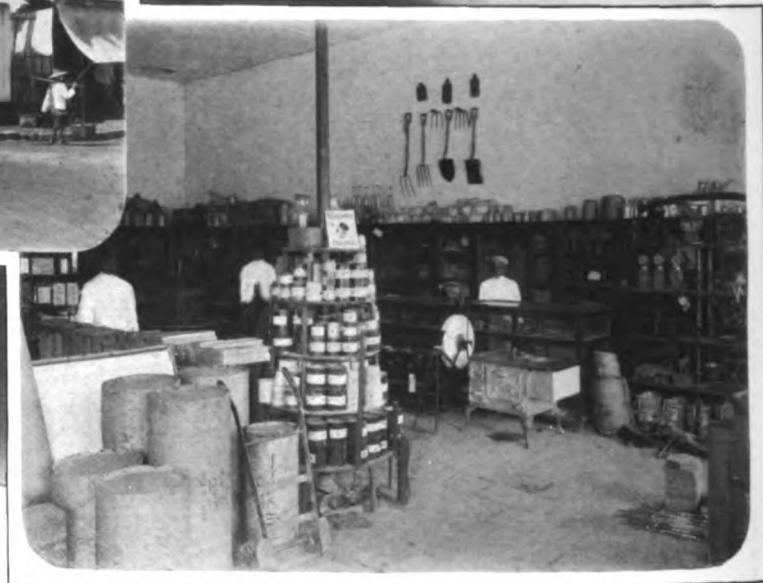
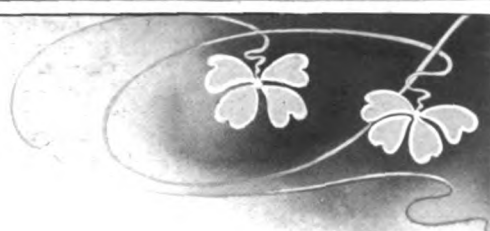
SOCIÉTÉ FRANCO-NEERLANDAISE DE CULTURE ET DE COMMERCE.

TRACTS of land covering an area of more than 20,000 bouws or 30,000 acres are in the hands of this important and flourishing French Company, but while they cultivate caoutchouc, tea, cocoa, and coffee in large quantities, their interests are by no means confined to agricultural pursuits. They have a considerable stake in various industrial enterprises—railways, tramways, mines—and conduct a very extensive import and export trade in addition. They are an agri-

controlled from Bandoeng. The capital of the Company is Fl. 6,000,000.

M. N. GALESTIN.

WITHIN the past seven years the business conducted by Mr. M. N. Galestin, at Bandoeng, has grown to be one of the largest of its kind in the Preanger Regencies. The enterprise was started in a very modest way in 1902; five years later, a branch was established in Garoet; in 1909 another was opened in Soekaboemi, and at the present time the advisability of founding a third in Batavia is being considered, while it is not improbable that in a short while the whole undertaking will be still further extended and turned into a limited liability company. The firm's original premises in Bandoeng soon proved too small for the rapidly increasing trade. Their headquarters now, however, are



BUSINESS PREMISES OF M. N. GALESTIN.

Bandoengsche Electriciteit Maatschappij—which has undertaken the duty is carrying out its responsibilities in a very successful manner, with profit to itself and satisfaction to the residents. The power station, which is situated some five miles from the town, contains two generators, and the current is carried into Bandoeng in two directions by the three-wire system. It leaves the station at 600 volts, and, after being transformed at the sub-stations, is distributed at 130 volts and 115 volts. At the present time there are 850 persons in Bandoeng and 100 in Tjimahi who use electric light as an illuminant, while current equivalent to 250 horsepower is supplied by the Company for industrial and other purposes. The demand, however, continues to increase, and exten-

cultural, an industrial, and commercial company at one and the same time. Their exports include tapioca (flake), tapioca (pearl), tapioca (seeds), flour, roots, copra, black pepper, white pepper, cowhides, buffalo hides, goat skins, sheep skins, kapok, kapok seeds, sesamum seeds, castor oil seeds, maize, cocoa, coffee, gum damar, cinnamon, nutmegs, benzoin, and rattan, while their chief imports comprise all kinds of woven goods, metals, machines, and hardware. Their markets are Holland, France, England, Belgium, Germany, Austria, Italy, North America, and Australia.

The Company's head offices are at 113, Rue Reaumur, Paris. In Holland they have representatives at The Hague, while in Netherlands India their varied interests are

commodious, well arranged, and situated in the very centre of the commercial quarter of the town at the corner of the Grooteweg and Tegalegaweg. The firm take a pride in being able to supply, with the least possible delay, all the requirements of the various estates in the neighbourhood, and keep large stocks of agricultural implements, building material, and tools always on hand. They also act as agents for tea, cinchona, coffee and other estates, and for several European houses. The building facing the Grooteweg is used as a showroom, light articles being stored in the premises in Tegalegaweg and the heavier goods in a godown near the station.

Mr. M. N. Galestin takes charge now of the produce and export department, but the



PREMISES AND PACKING ROOM OF THE DJOKJASCHE APOTHEEK J. VAN GORKOM & CO.

success of the business as a whole has been entirely due to his enterprise and powers of organisation. Mr. H. P. van Alphen is the

sidered the social centre and general meeting place of the residents of Djocjakarta and neighbourhood. The site first occupied by

The club has a total membership of some 360; about 300 gentlemen and 60 lady members. The president of the club—at present Mr. Monod de Froidville—and the committee, consisting of six members, are elected annually.

The secretary is Mr. M. Roos, who has been connected with the institution since 1892.

DJOKJASCHE APOTHEEK J. VAN

GORKOM & CO.

As the leading pharmacy in the district, a few details regarding the establishment and progress of this business may prove of interest. Its value to the residents is generally recognised. The premises were opened in 1865, by Mr. J. van Gorkom, only to be totally destroyed by the terrible earthquake which wrought so much damage in Java the following year. They were then rebuilt on a greatly improved plan, and have been added to from time to time as the needs of a flourishing trade required. Mr. van Gorkom sold the business to Mr. van der Haar in 1878. It subsequently passed into the hands of Mr. Boelman, from whose widow it was purchased by Mr. M. Popta, the present proprietor, in 1904. The firm sells medicaments of all kinds, in both wholesale and retail quantities, and deals largely in chemical and optical goods, and in wines and spirits. In addition, a mineral water factory was started in connection with the business some fifteen years ago, and, judging by the increasing output, is regarded as a boon and patronised by a large number of the community. It has now been found necessary to erect new and up-to-date works, with steam-driven machinery to cope with the demand for the factory's products. Plans have already been prepared, and building operations will commence in a very short while.

Mr. M. Popta gained his diploma for chemistry in Amsterdam in 1896, and came



WATER CASTLE (TAMAN SARIE), DJOCJAKARTA.

head of the sales and agency department, and Mr. L. Battaglini is responsible for the general office administration.

DJOCJAKARTA.

A TOWN with a pleasant climate, exceptionally healthy, the residence of the Sultan, and the very centre of native life, Djocjakarta appeals strongly to most tourists, and many of them make it their headquarters for a holiday in Java. It is a convenient starting point for a number of interesting excursions. The student of ancient Hindu art and architecture will delight in exploring the Hindu temples of Prambanan. There are the royal tombs at Pasargede and Imagiri, and a famous old water castle, all within the compass of a few hours' journey; the Goenoeng Sewoe mountains, with their remarkable geological formation, cannot help but arouse the enthusiasm of the geologist, whilst the kampongs and markets, teeming with natives, will prove an inexhaustible mine for the curious inquirers into the social conditions of tropical life. Here the most skilful goldsmiths and batik workers are resident, for in no other district in Java can such fine handicraftsmen be found as in Djocjakarta.

The town itself is well laid out, with broad, clean roads, an excellent club, and several large, handsome buildings. But surpassing all in interest and magnificence is the great "Kraton," the Sultan's home, a large square, enclosed by a wall 4 metres high and 5 metres broad, which is a regular town in itself, full of streets, buildings, roads, canals, native villages and gardens. Within this boundary wall, which has a length of something over four miles, there are more than 15,000 natives, and all of them in one way or another are associated with the Court.

SOCIETEIT "DE VEREENIGING."

THE Societeit "de Vereeniging," which was established in 1828 by a few members of the community, may now perhaps be con-

sidered the social centre and general meeting place of the residents of Djocjakarta and neighbourhood. The site first occupied by the club was a part of the garden attached to the Resident's house, but, the membership gradually increasing with the growth of the town, it has been found necessary on not less than five occasions to extend the club buildings. At the present day, the club occupies large premises, comprising a billiard room with five tables; a spacious ball room, with stage, reading room, a handsome bar, and a particularly fine verandah (135 feet by



SOCIETEIT (CLUB) DE VEREENIGING, DJOCJAKARTA.

42 feet), under the shade and cover of which many happy hours are whiled away by the members and their friends.

to Java two years later. Previously to starting business in Djocjakarta, he was in Soerakart and Semarang.



BAS-RELIEFS, BOROBUDUR.

SEMARANG.

WITHOUT being commonplace, Semarang is a town somewhat lacking in significance to the casual visitor, and first impressions are of the negative order rather than definite and interesting. It is a town without antiquarian interest and yet quite unmodern, without beauty in itself and yet surrounded by beauty, hiding its very extensive commerce in the cloak of a sleepy tranquillity, its wealth in the Chinese quarter, its pleasant places in odd corners, and its fortifications even, in such a way that one might live in the neighbourhood for years without knowing of their existence. A somewhat dilapidated town being slowly repaired and rebuilt, prosperity and decrepitude lying side by side, a place of contrasts, as such it would strike the tourist, but a close observer would find much to arrest his attention and hold his interest.

Prior to the second half of the 17th century, Semarang could have been little more than a native village, with a certain amount of trade, no doubt, but of no more importance than Rembang and other small ports in the vicinity. During the 18th century, it became the seat of the government of the North coast, and for a time rivalled Batavia in importance, but there are few traces left now of the queer old walled city of that period. Until quite recently a mark of its former greatness existed in the Palace of Governor Daendels, a magnificent old building, planned on most generous lines and situated at the end of Bodjong. After the division of the island into Residencies, however, the palace became the home of the Resident of the district, and proving too large for modern requirements was demolished. Other old landmarks have disappeared with time, notable amongst them being the Prince of Orange fort, which was built shortly after the Java war. It covered a large piece of ground, a portion of which is now part of the racecourse, and was surrounded by a moat. Its strategical value was lost by the gradual retreat of the sea, caused by the silting up of mud, and a new fort has been erected for coast defence.

The town can hardly be said to have commenced its commercial career until the time of the British occupation, when factories were started for the manufacture of the many requisites for the troops. Clothing, woven from cotton grown in the neighbouring district of Demak, saddlery, gunpowder, and many other articles, the importation of which was difficult and uncertain, had to be made on the spot, and as a result Semarang grew in importance as a commercial centre. After the Java war, the final subjugation of the Princes of Soerakarta and Djocjakarta and the subse-

quent opening up of the rich lands of Middle Java, Semarang went ahead rapidly, and has been, for many years now, the third port of the island. In 1908 nearly 300,000 tons of sugar, in addition to large quantities of tobacco, coffee, cocoa, spices, and the many and plentiful products of the surrounding districts, were exported, and 835 vessels, with a total tonnage of 1,630,161 tons, were cleared. The foreign population has grown from a few hundreds in 1812 to over 20,000. The native population has also largely increased, so that all told the

west is swampy land, but the town is protected from floods by a well-constructed canal on either side. Famous and old is the post road which runs along the eastern borders of the town through the hills into the interior. By this road alone can Soerakarta and Djocjakarta be approached from the north-east, and along it Sir Stamford Raffles marched on his expedition against the inland princes. It has been in existence for many hundreds of years, and probably dates back to the time of the Hindu occupation.



KALI-BAROE.

town numbers to-day some 97,000 souls. The gradual nature of the increase is shown from the following official figures:—

		Europeans.	Natives.	Chinese.	Arabs.	Asiaties.	Total.
1886	...	3,000	53,402	10,808	600	002	68,028
1895	...	3,545	66,280	11,375	751	1,011	82,962
1900	...	4,800	70,426	12,372	724	604	86,286
1908	...	5,120	70,413	13,036	608	787	89,964

Semarang lies in the western corner of the great plain, which runs inland for many miles between the mountains of Japara and the middle Java range. To the east and

Visitors making a pleasure trip in the district should, if possible, travel from Semarang to Djocjakarta by motor-car along this road,

for its beauties are many, and an excellent opportunity is afforded of observing the nature of the country and its cultivation.

The State railway which runs through the

island, connecting Batavia with Sourabaya, does not touch Semarang, and to reach the town the traveller must needs change to the line of the Nederlandsche Indische Railway at Soerakarta. The line from Soerakarta to Semarang is a broad gauge and one of the oldest in the island, having been commenced in 1864. As the train nears the town, the mountains, Merapi, Meraboe, and Oengaren, may be seen jutting out of the plain, but with the approach to the coast the ground becomes bare and swampy. From the west, the town is reached by the line of the Semarang-Cheribon steam tram, which now supplements the old post road from Batavia. The line extends for a day's journey, through Pekalongan and Tegal to Cheribon and beyond, and in the near future the connection will be completed with Batavia, over Indramajoe, and a day of the present land journey saved. To the east is an extensive tramway system belonging to the Semarang-Joana Steam Tram Company, connecting with the ports and inland town of Japara and eventually with a similar system running from Sourabaya. Steam trams also run from the centre of the town to the railway station, to Boeloe at the western end and Djomblang at the foot of the hills to the south. Both the railway and tramway systems connect with the port for goods traffic, the lines running down as far as the small custom house on the seashore. The service of conveyances in the town, however, is poor and confined to two-wheeled "dos-a-dos" drawn by ponies decrepit and slow in the extreme.

The view from the roads of Semarang is perhaps the finest that is to be obtained along the whole of the beautiful north coast of Java. Passing Kendal Point and entering the large shallow bay, the landscape, bathed in the early morning sunlight, cannot fail to appeal even to the least imaginative. Behind

nearly 10,000 feet above sea-level, while to the back of the town may be seen the active, though somewhat lazy, volcano Merapi, the Telemayoe, and the Meraboe stretching away one behind the other. The Oengaren,

according to Java mythology, was the dwelling place of the gods and demi-gods of antiquity. The range ends with the Slammat (10,500 feet), although on an exceptionally clear morning the Tjerini (9,200 feet), lying



CHINESE QUARTER.

8,400 feet high, another extinct volcanic peak, and the twin cones, Soembling and Sindoro (the brothers), 10,500 and 9,600 feet respectively, rising from the plains of

nearly 200 miles to the west and just behind Cheribon, may be seen above the horizon and apparently rising out of the sea.

The natives look upon all these mountains as the works of man. After the creation, according to the legend of the "Manek Maya," the earth was in great distress, and original man, Sang Yang Guru, being empowered by the all-powerful Sang Yang Wisesa, went under the earth to discover the cause. Upon his return, he observed that the earth was depressed towards the west and elevated towards the east, and he summoned all the deities to a consultation respecting what might be the reason of this inclination. The god of the west giving it as his opinion that a large mountain bore down the earth in his direction, Sang Yang Guru directed that the mountain should be distributed over the earth so as to preserve a true balance. Passing from generation to generation, this story has been somewhat altered, and princes of the earth now take the place of the old-time deities when the legend is told. It is said that the king of the west, being at war with the king of the east, directed that the sea should cover the low-lying land and destroy his enemy. The king of the east, however, ordered that when the waters rose, the mountain to the west should be taken up and distributed over the island, and being the more powerful of the two, his commands were effectively carried out and his rival overwhelmed.

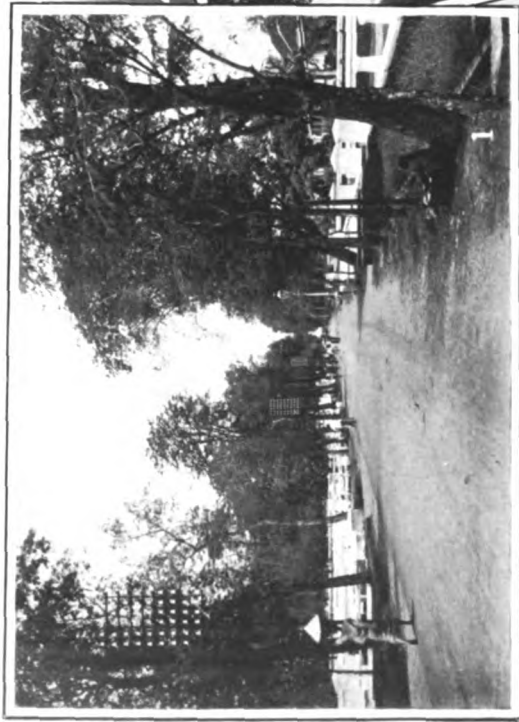
Only the tops of a few prominent buildings in the town are visible from the sea: the dome of the Protestant Church, and the square roof of the Government offices, the lighthouse at the water's edge, and, in front of this, the light towers at the end of each breakwater. No swarm of bumboats meets the incoming steamer here, and the process of landing is conducted decently and in order, with the assistance of the tug of the steamship company. Owing to the nature



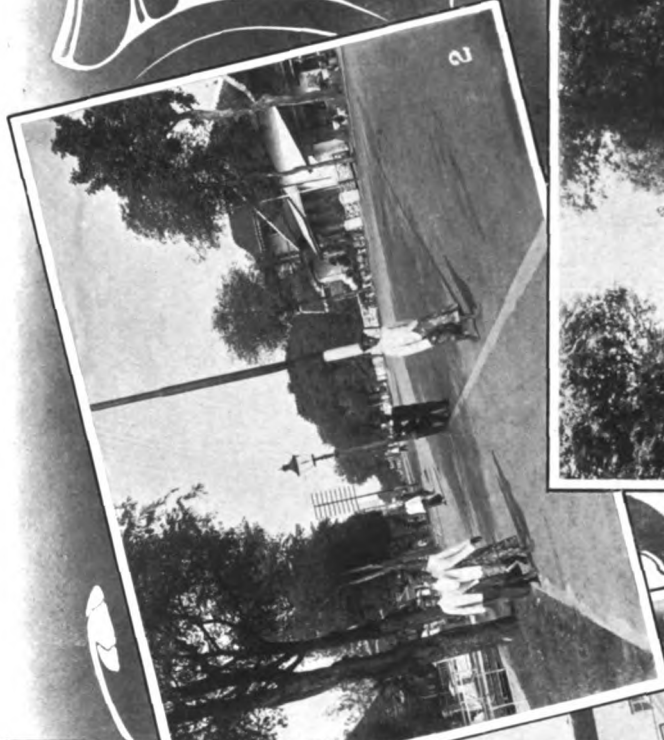
BOELOE PLEIN.

the Japara coastline, the Moriah rises in gentle slopes to a picturesque group of peaks 5,000 feet high, under which lie the richest oil wells in the island. Some hundred miles or so to the south, Lawoe lifts its head

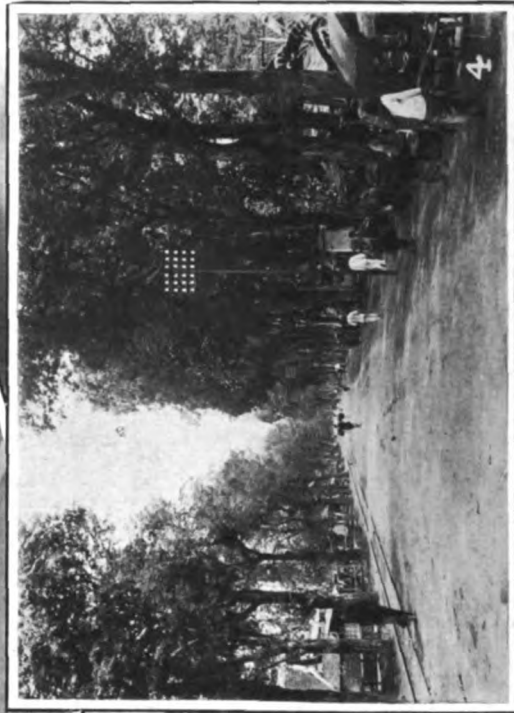
Kedu, all come within the range of vision. Nearer at hand, the Prauw, 7,800 feet, marks one of the points of antiquarian interest. Just across the northern border of the mountain lies the Dieng Plateau, which,



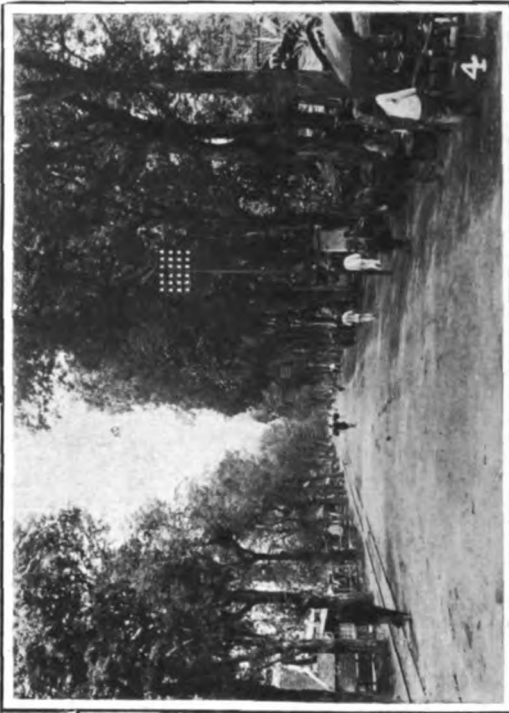
1. BLAKANG KEBON.



2. BODJONG.



3. HEEREN STREET.



4. KARANG TOERIE.

of the bay, it is impossible in the best weather to drop anchor within two miles of the shore, whilst, during the west monsoon, large ships lie as far as four miles out. For many hours at a time during bad weather it is impossible for ships to communicate with the town, and it sometimes happens that passengers and cargo have to proceed to Sourabaya or Batavia. Fortunately, this is not often the case, but there is always the possibility that it may happen, the formation of the coast making the building of a harbour to protect the shipping almost impossible. It is only through the narrow entrance of the Tangerang that the port may be reached, and while two breakwaters, built half a mile out, protect the mouth of the river, continual dredging is necessary to make it passable. At the shore end of the western breakwater is the lighthouse, and opposite this the small customs-house at which passengers must land. The river is not more than 25 yards across, and for a mile inland either bank forms a long quay, where produce is shipped into lighters and duty free imports are landed. All sorts of queer and ancient craft may be seen jumbled together—native prahus, of various shapes and questionable seaworthiness, Arab dhows, which might be centuries old from their appearance, and which, though they trade between Java and the most distant islands of the Archipelago, often appear to be falling to pieces. Besides these, and forming a striking contrast to them, are the sturdy craft of the lighter companies, fine seaboats, built to withstand the heaviest weather and capable of carrying as much as 400 tons. Broad roads, flanked by the produce godowns of the business firms, run along either side of the water, and backwards and forwards in a seemingly never-ending procession go the coolies from the stores to the ships. Small and weakly little men most of them are, and the burdens

which lies some distance further on. Great improvements are shortly to be made in the port, however, and a new harbour scheme providing for the removal of the large customs-house to the beach east of the

Past the customs-house the river is crossed by a bridge which prevents lighters proceeding further. From this bridge a good view of the town may be obtained, and the river which it crosses marks a division between the old town



MALAY QUARTER.

breakwater, where quays are to be built and the handling of in and outward cargo simplified, has recently been passed by

and the new. To the east lies the European business quarter, the old town proper, but there is little now to recall the strongly fortified town of years gone by except perhaps here and there a name. West Wall Street, for instance, was a broad thoroughfare occupied along its whole length by banking and business offices, taking the place of the old town wall. Towards the south, the river bends away through the Chinese quarter, the roofs of which may be seen from the bridge, whilst immediately opposite are the offices of the Water Department and the Government archives. To the west lies the town hall, containing the Government Departments, the Resident's office, police headquarters and court of justice. Queer dark old two-storeyed houses, built in blocks, with their upper verandahs projecting over the street, were erected in this district when little was known of the requirements for a comfortable life in the tropics, and little thought given to sanitation. Some of these still remain and are used as offices and shops, but they are gradually being demolished, and it will not be long before all traces of the old town are lost. Passing along Heerenstraat, the Java Bank offices are on the right, and the Protestant Church, built in 1804, on the left, while further along, what was at one time the market-place, is now a public square surrounded by shops. North of Heerenstraat and running parallel to it is Tawang, where formerly stood the north wall of the old town, while on the south side is Hoogendorpstraat, full of merchants' and brokers' offices. The main road, after passing the Semarang-Joana Steam Tram headquarters, crosses Pengapon, where are the European cemetery and the large refinery of the Dordtsche Petroleum Company, and, beyond Melatan, runs through the eastern border of the Chinese camp. Outside the town in the direction of Djombang, a new district,



LOWER END OF KARANG TOERIE.

they can bear astonish the stranger. Some way from its mouth the canal is crossed by a drawbridge of ancient design, and above this lies a lock through which dutiable goods must enter to reach the large customs-house

Government. The saving in time, labour, and consequently, money, which will follow the removal of most of the traffic from the narrow and overcrowded little waterway will be considerable.

containing a number of pretty little European houses, is springing up and spreading along the Broemboeng road.

The Chinese quarter may be reached *via* Kerkstraat and Pekodjan, a long narrow street

and substantial building—lies the Aloen-Aloen, a large open space which serves as a native recreation ground. Here also the travelling circuses, cinematograph, and other visiting shows pitch their tents, while in one corner,

for the greater portion of its length it is flanked by those large, white, roomy bungalows, typical houses of the Hollander throughout the Dutch East Indies.

Bodjong Park, which brings the road to an end, is another pleasant open space, where the residents may enjoy the cool air of the evening and the music of an excellent band at one and the same time. Large open spaces for the free circulation of the air, a plentiful supply of water, and good music are the three attributes to a life in the tropics, which the Hollander apparently regards as essential. From the park four roads stretch away to different points of the compass. Along the Pendrian, which turns at a sharp angle and leads back to the town, may be seen the racecourse, the entrance to the Orange Fort, a long line of officers' quarters, and several small factories and dwelling houses. The coast post road runs through Pekalongan and Tegal to Cheribon and beyond. Randosarie, to the east, is a pretty, leafy drive, which passes along the foot of the hills through a continuous avenue of trees to Djomblang, where it meets the inland main road, and so, with Bodjong and the sea, completes the square in which the town is enclosed. The beauty of Randosarie is indisputable, but its surroundings are dismal enough, the first slopes of the hills behind the town forming nothing but a long succession of European and Chinese graves. In one old European graveyard which has not been used for many years, and which, from the inscriptions on the stones, would appear to have been the private burial places of two families, by name Cramer and Bornemann, lie the remains of Lieut. C. G. H. D. Bornemann, who, in 1825, led a troop of mounted volunteers against the natives in the action at Gamba, in which the Semarang Schutterij, or town guard, took part. The



SOLDIERS' CLUB.

of shops of every description, gradually merging into a labyrinth of thoroughfares thronged with traffic, and the general profusion of trades, interests, peoples, and dialects, common to Chinese towns the world over. Beyond Pekodjan lies the old Chinese quarter, the first part of which is taken up by the wholesale tradesmen and shipping firms. Some of the well-to-do Chinamen have built houses in more salubrious suburbs, but they are few in number, for special permission has to be obtained, and most of them prefer making their money and living their lives on the same spot, evidently thinking more of the saving of time, through being in close proximity to their business, than of fresh air and recreation. Turning sharply to the right after leaving Pekodjan is Gang Waroeng (shop street), the headquarters of the piece goods trade, while a little farther south are the native villages, where perhaps the only place of interest is the gambling-house, a large and tumbledown building without windows, and a general appearance suggestive of a prison. The house, which is under Government supervision, is let to a Chinaman, who is held responsible for the good behaviour of the players, and all gambling outside its precincts is suppressed with a heavy hand. Generally speaking, there is very little rowdiness in any of these localities, law and order being most successfully maintained by the very thorough police organisation, consisting of native constables, European inspectors and heads of districts, and a few Sikhs.

The main street of the European residential part of the town is known as Bodjong. It continues from Heerenstraat, in a straight line for about a mile and a half almost to the foot of the Oengaren, and is one of the finest and best kept roads in Java. For the most part, it is bordered by tamarind trees, and the whole locality is well-shaded and cool. Passing the town hall and the post office—a new

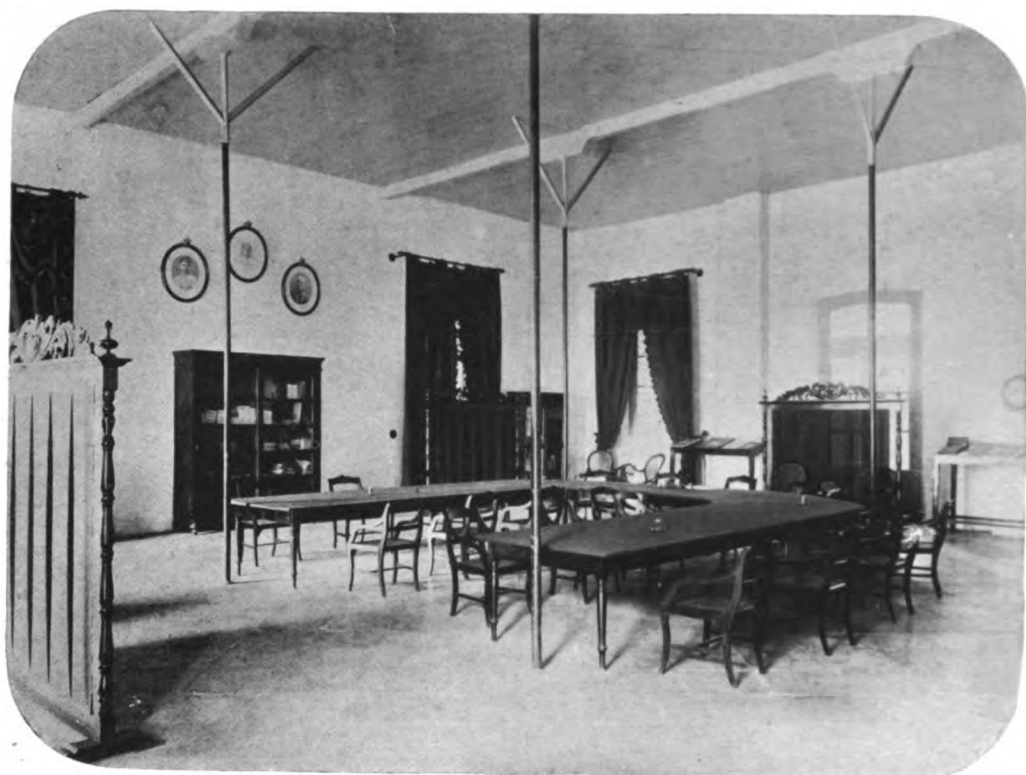
and within the precincts of the town gardens, is a building for dancing, concerts, and theatricals, forming a kind of social club for



HARMONIE CLUB.

the people. A few shops and a restaurant, with two or three notable buildings, including the Harmonie Club, recently completed, the Protestant Orphanage, and the higher grade schools, occupy the town end of Bodjong, but

small troop was terribly cut up and seven Englishmen, heads of business houses in the town, lost their lives. At Djomblang, the road begins to rise in a sharp hill or one in eight to Tjandi, which lies at the top of the



OFFICES OF HANDELSVEREENIGING.
(A body which carries out the duties of a Chamber of Commerce.)

first slope some 300 feet above sea-level. Upon the next and somewhat higher spur is the Tjandi Club, and the road passing beside many large private residences, eventually ends in a footpath by which Randosarie and Gergadjie may be reached after a pleasant walk over the plains of Demak, a huge expanse of marsh and rice land, with teak forests and jungle in the distance stretching eastward to the Japara hills and inland as far as the eye can see. Tjandi is an ideal residential quarter, and deserves a greater popularity than it now enjoys. Two tennis clubs and excellent golf-links add to the attractions, but apparently the majority of business people prefer the plain close to the town to Tjandi at a distance of half an hour's drive.

The sporting element amongst the European population in Semarang is strong, and there are in the town several tennis clubs, five football clubs, hockey, auto, and bicycle clubs, and last but not least the Race Club, which, established in 1906, now has an admirable little racecourse, three-quarters of a mile in circumference, off Pontjol. Two meetings are held in the year, in May and September, each with two days' racing, and then Semarang makes general holiday and enjoys itself thoroughly.

SOCIETEIT HARMONIE.

SEMARANG is able to boast one of the finest club buildings in Java. It is quite able to vie with its namesake in Batavia, for it is new, and no effort has been spared to make it comfortable. When the Societeit Harmonie was first formed, the club premises were situated in Heeren Street. These were sold in 1908, and a large building on a splendid site in Bodjong, a pleasant suburb of the town, was purchased for G. 55,000. With a little trouble this was converted into very comfortable club quarters, but not quite meeting the requirements of the members, it was decided that the old building should be demolished and an entirely new one erected in its place. The preliminary arrangements were quickly completed, and the foundation stone of the new club was laid by the daughter of the Resident, Miss R. de Vogel, in the same year. The premises are now completed, and comprise a ball room, billiard room, with six tables, library, reading, card, and dressing rooms, and a bar. The site of the old building is being transformed into a large and beautiful garden, and a skating rink is being constructed.

The membership numbers three hundred, and comprises practically all European residents in Semarang and the district. The president of the club is Mr. J. van Ryn van Alkemade and the vice-president, Mr. W. de Vogel. The committee consists of Messrs. A. H. Klein, M. Vierhout, C. A. Hoorans van Heyningen, J. H. Harten, A. Fliers, W. Oltmans, and K. J. Byl. Mr. G. Herzberg carries out the secretarial duties.

HANDELSVEREENIGING.

THE Handelsvereniging in Semarang carries out most ably all the functions of a chamber of commerce. It is an association of business men formed for the purpose of protecting and advancing the various trade interests in the locality. Its membership is large, and its influence considerable, for only those holding positions of responsibility in commercial circles are eligible for election.

Each month the chamber issues a paper containing the ruling market prices, and the latest intelligence regarding the movement

of shipping and the import and export trade. This paper is exceedingly valuable to all business houses; its information is accurate and comprehensive, and the committee is never-ceasing in its efforts to make its sphere of usefulness still wider. The chamber is always willing to lend its assistance to any movement that is calculated to bring about reforms, either in the customs regulations or in the methods of handling cargo, which it is considered would prove of service to the local trade, while it has long been endeavouring to obtain better accommodation for the berthing of lighters in Semarang harbour. In many other ways the chamber renders service to the community, even maintaining a fire engine at its own expense, a responsibility not usually undertaken by associations of a purely commercial character.

The general body of members elect the chairman and committee of the chamber, while the committee chooses the vice-chairman and secretary. The committee at the present time is as follows: Messrs. M. C. Brandes (president), J. Schellema de Heere (vice-president), H. Hafter, W. Buning, and C. Horsman (secretary).

THE "SOERIA SOEMIRAT" AND "SEMARANGSCHE AMBACHT'S SCHOOL."

THE "Soeria Soemirat" (meaning in the Javanese language the "Rising Sun") was an association founded in 1887 with the object of assisting financially indigent Europeans and Indo-Europeans. Four years later, in 1891, as its sphere of usefulness had considerably increased, it was decided to establish workshops in order that those requiring assistance could work at their own trades, and not only derive financial benefit but have the opportunity of extending their technical experience. The workshops, hired and afterwards purchased by the Association, comprised a boot and shoemaking factory, blacksmiths', tinsmiths', stonemasons', painters', and saddlery and harness shops. The following figures show the number of men now provided with employment, the wages paid to them, and the amount of money realised by their efforts:—

	Europeans.	Natives.	Wages.	Money Realised.
			Guilders.	Guilders.
Shoemaking ...	12	1	3,230	3,263
Painting, stonemasonry	10	—	2,220	3,535
Blacksmithy, and bedstead making ...	28	4	5,285	10,494
Saddlery and harness manufacture...	17	1	2,627	4,857
Tinsmithy ...	8	2	1,683	2,726
	75	8	15,054	24,875

The good work, however, was not allowed to stop here. It was deemed necessary, in order further to increase the prosperity of the poorer classes, to establish a technical school for European youths who were unable to obtain employment in either the Government offices or with business firms, and out of the "Soeria Soemirat" a new institution was gradually evolved called the Semarangsche Ambacht's School. A sum of 4,200 guilders was raised privately on behalf of the school; the committee were able to rely upon receiving G. 4,800 yearly from subscribers; the Government promised a grant of G. 500 monthly, and the buildings and workshops of the "Soeria Soemirat" were lent to the new institution free of cost, so that the school was soon

established on a very solid basis. In 1895 it was found necessary to rent a larger building, which two years later became the property of the Association. Further additions were shortly made by the purchase of the neighbouring dwellings, and as these buildings were afterwards found to be unsuitable for teaching purposes, it was decided, in 1907, to erect a new school, a photograph of which is reproduced. The school was completed in 1909, and contains nine large class-rooms, including two exceptionally fine rooms for instruction in draughtsmanship. Lighting and ventilation have also received special attention. The workshop is supplied with various machines, driven by a Marshall portable engine, and the blacksmith's shop has been completely renewed, and fitted as far as possible with modern appliances. The money for these new buildings was provided partly by grants and contributions from patrons and members of the Association and partly by the Government. The Government, in addition to advancing G. 20,000 as a loan free of interest, provide also an annual subsidy of G. 12,000. As the work has progressed and proved year by year to be of so much benefit to those concerned, ready assistance has been forthcoming from the owners of the sugar estates, railway and tramway companies, factories, corporations, and various private enterprises. From these sources some G. 10,300 are subscribed each year. The school fees in 1908 amounted to G. 7,392, while the number of pupils varies from 71 to 100.

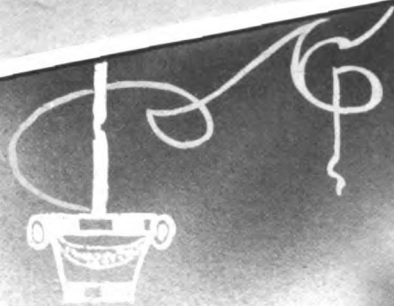
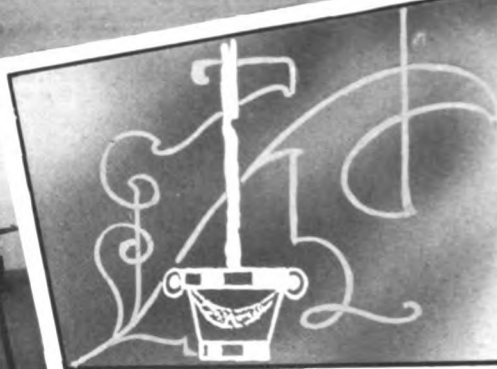
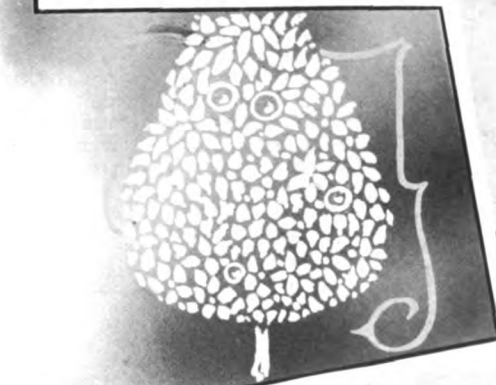
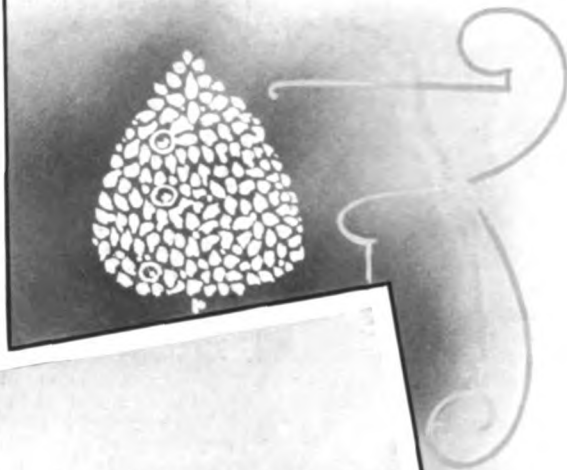
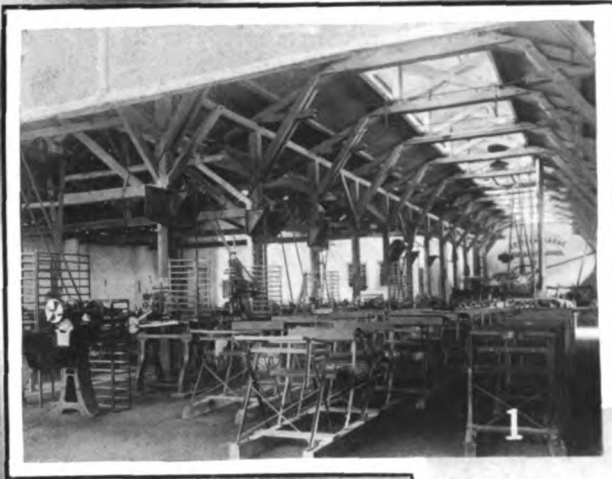
COMMERCIAL: EUROPEAN.

CULTUUR MAATSCHAPPIJ DER VORSTENLANDEN.

THE influence which such a Company as the Cultuur Maatschappij der Vorstenlanden may have on the agricultural and industrial enterprises in the district in which they operate cannot be over-estimated. They carry on a general commission trade, but more especially they foster and exploit agriculture and industry in Mid-Java, providing working capital where it is required, advancing sums of money on agricultural produce on consignment, and preparing for the transport and sale of such produce. The Company control thirteen sugar estates, two estates growing sugar-cane, one growing tobacco, and one tea. Besides having charge of their administration the Company are financially interested in all of these properties. They also provide the working funds and handle the produce of fourteen additional estates, seven growing sugar, four tobacco, and three coffee. During late years the Company have gradually withdrawn their interest in coffee and cocoa estates and have paid greater attention to the sugar trade. In 1902 1,472,000 piculs of sugar passed through the Company's hands, while last year the amount was 2,110,000 piculs.

The Company were established in March, 1888. Their headquarters are in Amsterdam, and as their business interests outside of Mid-Java are but slight, their only branch is in Semarang. The capital of the Company, which is fully paid-up, is G. 10,205,000. The reserve fund on December 31, 1907, amounted to G. 685,004.

The Board of Directors includes Mr. S. P. van Eeghen (president), Mr. H. J. de Marex Ovens (vice-president), Jhr. W. H. van Loon, Mr. S. Everts, Jhr. C. H. A. van der Wyck and Jhr. H. M. Huidecooper. The acting directors are Messrs. R. van Lennep and



THE AMBACHT'S SCHOOL—AN INDUSTRIAL INSTITUTION.

1 and 4. WORKROOMS

2. THE SCHOOL PREMISES.

3. A CLASS-ROOM.



CULTUUR MAATSCHAPPIJ DER VORSTENLANDEN.

1. GODOWNS AT KALI BAROE.

2. THE OFFICES.

3. INTERIOR OF GODOWNS

C. C. Leveryn, and the procurator holder, Mr. L. Kunze. The managers of the branch at Semarang are Messrs. M. C. Brandes, J. van Burg, and J. F. Tollenaar, while Mr. H. P. Kloppenburg carries out the duties of procurator holder.

INTERNATIONALE CREDIET & HANDELS VEREENIGING "ROTTERDAM."

THE Semarang agency of this well-known commercial and financial house has been established for many years. The firm are general importers and exporters, financial, commission, insurance and shipping agents, as well as directors of several large estates. Piece-goods and "fancies" form their chief imports, and in this department alone the sales represent a "turn-over" of more than nine million guilders a year. As exporters and commission agents they handle almost every kind of Java produce. They are directors of the tobacco estate, "Gawok," the coffee estate, "Sringin," and the sugar mill, "Kartasoera." As financial agents and consignees the following sugar estates come under their administration:—"Tjomal," "Bangak," "Tjebongan," "Bantool" and "Tandjoong Tirta," as well as several coffee estates.

The Company are agents for the Royal Mail Steamship Company, "Rotterdamsche Lloyd," and for the insurance companies Javasche Zee & Brand Assurantie Maatschappij, Assurantie Maatschappij tegen brandschade en op het Leven "de Nederlanden" van 1845, Royal Insurance Company, Ocean Marine Insurance Company, and London and Provincial Marine and General Insurance Company. They are also financial representatives of Gebrs. Stork & Co., Hengelo, iron founders and manufacturers; and correspondents of the Chartered Bank of India, Australia, and China, Ltd.

Founded in 1864, the Company have a capital of G. 7,500,000. Their head offices are in Rotterdam, and, besides Semarang, they have branches in Batavia, Sourabaya and Cheribon. The local manager is Mr. W. Bloemen, who joined the Company in 1892.

MIRANDOLLE VOÛTE & CO.

As general exporters, financial and general managers to sugar factories, and agents for estates, the name of Messrs. Mirandolle Voûte & Co. is familiar to the whole commercial life of Java. The head office of the Company is in Amsterdam. The local business was established in 1888 by Mr. M. P. Voûte, who for many years held the reins of management. Some time ago he assumed the control of the European office, and his partner, Mr. A. A. F. Krüsemann, who has spent twenty-five years in Java, is now in charge at Semarang. There is a branch of the business in Sourabaya also.

At Semarang, the Company have large and conveniently situated offices and godowns, the latter, which have only just been rebuilt, being equipped with all modern methods of storing and handling the many kinds of local produce dealt with. Some little idea of the extent of the firm's interests, however, may best be obtained by an enumeration of the factories which are under their control. They include—

SUGAR FACTORIES :

	Residency.
Tandjong Modjo	Japara.
Rendeng	
Poendoeng	Djocjakarta.

Modjo	Residency.
Gondang Winangoen	
Dlanggoe	Soerakarta.
Tjokro Toeloeng	
Gedaren	
Triagan	
Tasik Madhoe	J
Malang Djiwan	

TOBACCO ESTATES :

Wedi Birit	Residency.
Gajamprit	
Kebonaroem	Soerakarta
Djiwo	
Gantiwarno	
Djogonalan	
Polan	Djocjakarta.
Bakki Pandean	
Djoewiring	
Tempel	
Mlessen	Djocjakarta.
Kebonagoong	
Sorogedoog	
Wringin	
Sentong	Besoei.
Boender	
Soekasarie	

COFFEE OR HEMP ESTATES :

Kedawong	Residency.
Tarik	
Soekaboemie	Soerakarta.
Gambar	
Poentjoe	Kediri.
Setjang (cocoa)	

MR. H. E. TANCRELLE, the general procurator holder of the Company, came to Java from Amsterdam some fourteen years ago. For the greater part of this time he has resided in Semarang, where he takes the greatest interest in all local affairs.

MAINTZ & CO.

THE Semarang branch of this well-known firm of exporters and shipping agents was opened in 1904, and since its establishment has been under the control of Mr. H. Hafter. A native of Zurich, Switzerland, Mr. Hafter has been resident in Java for seventeen years, and, during the whole of that period, has represented the Company in various parts of the country.

All locally-grown produce, such as coffee, tapioca, copra, maize, &c., and hides are exported by the firm; while as agents they represent the German Australian Steamship Company, Ltd., of Hamburg, and the Austrian Lloyd Steamship Company, Ltd., Trieste. A further reference to the firm's activities and general agencies will be found in the section of this work dealing with the commercial houses of Sourabaya.

PITCAIRN, SYME & CO.

THE Semarang branch of Pitcairn, Syme & Co. was established in 1902, the first manager being Mr. J. L. Burt. When he left for Europe in 1905 he was succeeded by Mr. W. D. Ross, who remained in charge until he was transferred to Sourabaya in 1907. Mr. T. J. Taylor, the present manager, was then appointed. Mr. Taylor is a Glasgow man. He came out East in 1901 and joined Messrs. Syme & Co. in Singapore—this being the style of Pitcairn, Syme & Co. in the Straits Settlements. The following year he was transferred to Batavia, where he was promoted procurator holder in 1905.

MCNEILL & CO.

MCNEILL & Co. are the oldest firm in Semarang, having started business in the town during the first half of last century. They have since amalgamated with MacLaine, Watson & Co., of Batavia, and Fraser, Eaton & Co., of Sourabaya, and are now the principal buyers and exporters of sugar in Java. In addition, they export coffee, kapok, hides, tobacco, and other produce of the Dutch East Indies, and import piece-goods and fertilisers. They are agents of the Hongkong and Shanghai Banking Corporation, the Mercantile Bank of India, Ltd., and of numerous insurance companies and steamboat companies.

The local manager and resident partner in the firm is Mr. D. M. Campbell, a Scotchman, who has lived in Java for some sixteen years past. Mr. Campbell holds the position of British Vice-Consul in Semarang. During his temporary absence his place is being taken by Mr. R. W. E. Dalrymple, who has for several years been connected with various branches of the firm in Netherlands India.

JACOBSON, VAN DEN BERG & CO.

RANKING among the oldest commercial houses in Semarang—for it was established in 1860—this important firm of general importers and exporters, with branches at Sourabaya and Batavia, carries on an extensive trade with Europe and Eastern countries. Its European office is in Rotterdam. The local premises are commodious and conveniently situated. All goods suitable for the Semarang market and for the interior are imported by the firm, while locally-grown produce of all kinds, including coffee, kapok, cotton, tobacco, mace, nutmegs, and tapioca is exported. Piece-goods comprise the largest proportion of the imports, however, while teak wood, for which the firm finds a ready market in Europe, is the chief article of export.

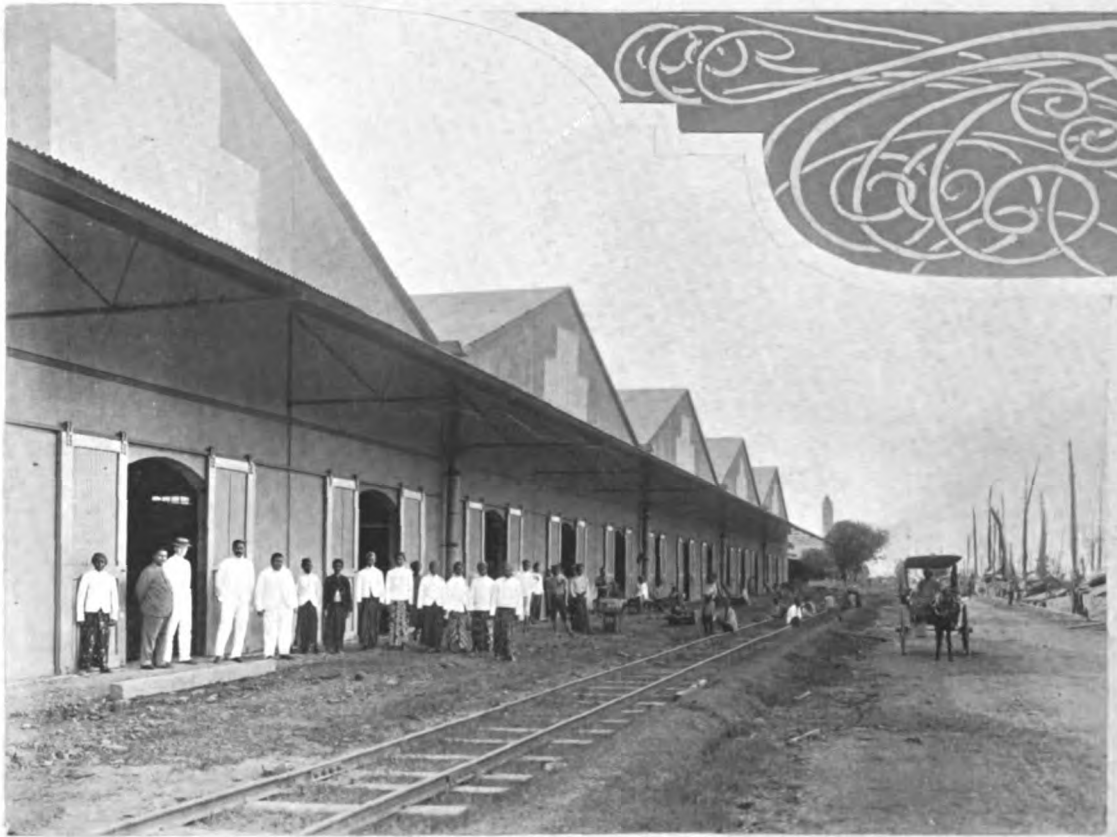
Messrs. Jacobson, Van den Berg & Co. are sole agents for Tieleman & Dros (canned goods and provisions); W. & A. Gilbey's wines and spirits; A. de Luze et fils of Bordeaux (wines); and H. H. Lugard (Dutch butter); they also hold the monopoly for the goods of several other important European establishments.

The partners are Messrs. D. Dunlop, E. R. Jacobson, and G. M. Belzer. Mr. Dunlop has charge of the Rotterdam office; Messrs. E. R. Jacobson and G. M. Belzer superintend the firm's interests in Java.

CHINA AND JAVA EXPORT COMPANY.

THE chief branch of the China and Java Export Company in Java is at Semarang. The business was started by Mr. Hugh Rehnitz under his own name in 1899, and was transformed into a company with its present title in 1903. The Company are large exporters of all kinds of produce, and conduct an important trade in skins and hides, which they send to all parts of the world. Their headquarters are in New York, and they have a branch at Amsterdam which is under the control of the Semarang office. Their branches in Netherlands India are to be found in Batavia, Sourabaya, Madioen, and Tegal, and they have several depôts in the interior of the island. While, however, as their name implies, their interests are centred chiefly on the Java and China trade, their representatives are to be found in practically all the large commercial centres in the East.

Mr. Fox, the general manager for the Company in Netherlands India, is an American who came to Java some two years ago.



OFFICES AND GODOWNS OF MESSRS. MIRANDOLLE VOÛTE & CO.

H. C. DIXON & CO.

THE important Manchester firm of Messrs. H. C. Dixon & Co. opened their first branch in this country, in Batavia, about ten years ago. Their first manager was Mr. C. N. Howes. After his death, the managerial duties were undertaken by Mr. Greenway, now a partner in the business, and when Mr. Greenway returned to Europe, Mr. J. C. MacColl (of the firm of Campbell, MacColl & Co.) was appointed his successor.

Mr. Dixon himself visited Java recently, and it was then decided that the firm's operations should be extended. Arrangements were consequently made with Mr. Colin H. Maclean to open branches in Semarang and Sourabaya; and it is the intention of the Company to establish a branch at Cheribon also.

schaft Helfferich & Rademacher, of Sourabaya, opened a branch in Semarang for his firm under his own name with the intention of giving it its correct title some few months later. In April, 1908, however, the firm of Helfferich & Rademacher, with all its branches, was taken over by Messrs. Behn, Meyer & Co., Ltd., and with the exception of the Semarang branch the name in each instance was changed from Handelsgesellschaft Helfferich & Rademacher to that of Behn, Meyer & Co. The agency in Semarang is still being carried on under the name of C. A. Bertsch, who has, since its inception, successfully managed the business.

The interests of the firm are many and varied. The branch was opened with the idea of introducing German artificial indigo, alizarine, and other dyes, manufactured by

copra, kapok, and pepper to Europe, America, and Australia.

The Company are agents for the Norddeutscher Lloyd Steamship Company, both for their passenger and cargo services. Cargo is accepted for any port in Java or Australia, the Norddeutscher Lloyd boats calling regularly at all the large Australian ports—Fremantle, Adelaide, Melbourne, Sydney, Brisbane, and Townsville—as well as Macassar, and all ports in Java. The round trip of this line from Bremen, via Antwerp, round the Cape of Good Hope to Australia via the Java ports and Suez Canal to Bremen, considerably facilitates trade between Australia and Java, for it has been found to be both convenient and reliable. The Norddeutscher Lloyd, at the beginning of April, 1909, opened a new passenger and cargo service

**BUSINESS MEN OF SEMARANG.**

1. J. RYN VAN ALKEMADE.
2. W. BLOEMAN.
3. H. HAFTER.
4. C. A. BERTSCH.
5. T. J. TAYLER.

6. C. H. MACLEAN.
7. C. W. HAPPE.
8. J. C. LEBERT.
9. L. VAN HAFTEN.
10. A. K. W. PRINS.

11. C. A. EDWARDS.
12. A. A. J. KRUSEMAN.
13. H. E. TANCRELLE.
14. A. SEELIG.
15. D. M. CAMPBELL.

16. J. F. A. THÜNHORST.
17. WM. FOX.
18. R. TEDESCHY.
19. J. F. SPIER.

The firm's chief business is the import of piece-goods from Manchester. Their offices in Semarang are large and conveniently situated, and under the management of Mr. Maclean, a Scotchman who has spent eighteen years in the East, and who has had considerable experience in this class of trade, there is little doubt the branch will be highly successful.

Messrs. H. C. Dixon & Co. also have extensive commercial connections in Persia.

BEHN, MEYER & CO., LTD.

IN August, 1907, Mr. C. A. Bertsch, the procurator holder of the firm, Handelsgesell-

the German firm, Farbwerke vorm. Meister Lucius & Bruenin, Hoechst-on-the-Main, Germany, for which Handelsgesellschaft Helfferich & Rademacher were sole agents in Java and Sumatra. It was at first difficult to establish these dyes on the local markets, but perseverance and enterprise won the day, and very considerable quantities are now sold to the natives. The firm import drills, cotton, linens, and twills, besides all the requirements of the haberdashery trade, and as the sole agents, in Java, of the Singapore Oil Mills Company, they also receive considerable consignments of coconut oil. They do a large business in gambier, and export

of boats from Singapore via Java ports, Macassar, and Banda, to German Guinea, and cargo for Australian ports can be accepted by this route, with transhipment in Friederichs Wilhelms Hafen.

**SOCIETÀ COMMISSIONARIA
D'ESPORTAZIONE DI MILANO.**

THE Semarang branch of this Italian firm was opened by the present manager, Mr. F. T. A. van Beusekom in 1904. He is assisted by Mr. J. F. A. Thünhorst, who, after gaining some few years' commercial experience in Java, joined the Company in 1908.

The firm are manufacturers and exporters. They deal largely in Manchester and Italian piece-goods and carry on a very extensive trade with China, South America, and all parts of the Dutch East Indies. Their headquarters are in Milan, and, in addition to Semarang, they have branches in Batavia, Sourabaya, Singapore, Shanghai, and Buenos Ayres. The paid-up capital of the Company is L. 3,000,000. The general director of the enterprise is Mr. J. Wurster, and the sub-director Mr. R. Tedeschy, both of whom reside in Milan. Mr. Tedeschy, however, was for many years a well-known figure in business circles in Java. It was largely on account of his very complete knowledge of the local trade that he was appointed to the head office.

KOLONIALE HANDEL EN CONSIGNATIE MAATSCHAPPIJ.

LARGE and conveniently-situated offices in the central part of the business quarter of Semarang were taken by this firm when they opened their branch in the town in 1907. The following year they established further branches in Sourabaya, Batavia, and Tjilatjap, and now as exporters of Java produce they carry on an extensive and important trade with Europe. The Company's headquarters are in Rotterdam. They have a capital of G. 200,000.

The manager of the business in Semarang is Mr. W. Gronert. He came to Java from Amsterdam some fourteen years ago, and during the whole of this period has been actively engaged in commerce. His name is well known and respected in all the large business centres of the island.

N. V. EXPEDITIE MAATSCHAPPIJ VORHEEN W. J. VAN HOOGENHUIJZE.

MR. K. F. GUYKENS opened the branch of this business in Semarang ten years ago, and under his management it has continued to increase steadily. The firm export produce of all kinds from Netherlands India, including sugar, tobacco, kapok, coffee, and cocoa, and act as financial agents for a number of sugar and other estates. They also carry on a general forwarding business for all kinds of goods and produce and agricultural necessities. The firm's headquarters are H. G. Th. Crone, Amsterdam; their capital, G. 100,000, comprising one hundred shares of G. 1,000 each.

SAMARANG SEA AND FIRE INSURANCE COMPANIES.

THE only colonial insurance companies having their headquarters in Semarang are the Samarang Sea and Fire Insurance Company and the second Samarang Sea and Fire Insurance Company. The first, which was established in 1866, has a subscribed capital of G. 2,000,000, of which G. 200,000 is paid up. The reserve fund on December 31, 1907, was G. 100,164, while other reserves amounted to G. 340,178. The second company was established in 1886, and also has a subscribed capital of G. 2,000,000, of which G. 200,000 is paid up. The reserve fund on December 31, 1907, was G. 54,833, and the other reserves G. 333,907. These companies are well known all over Netherlands India, and enjoy a high reputation for their sound business principles. The Samarang Company, during 1906 and 1907, paid a dividend of 10 per cent., while the second Samarang Company was only half a cent. behind this, paying 9½ per cent. to their shareholders.

The offices of the Companies are situated in Hoogendorp Street, the principal business part of Semarang. The board of directors includes Messrs. J. H. L. Bergsma, L.D., H. J. Soeters, and E. Jacobson, while the manager of the Companies is Mr. J. P. van Harencarspel, who came to Netherlands India from The Hague some twelve years ago, and has been engaged in insurance business in Java ever since. He was appointed to his present position in 1907.

The Samarang Insurance Companies represent: Netherlands India Sea and Fire Insurance Company C.S., the Colonial Sea and Fire Insurance Company C.S., the Fire Insurance Company "Mercurius," the Fire Insurance Company "Padang," the Fire Insurance Company "Sumatra," s'Gravenhaagsche Sea and Fire Insurance Company C.S., the Sun Insurance Office, the State Fire Insurance Company, Ltd., of Liverpool, the Nord Deutsche Versicherungs Gesellschaft, and the Continentale Versicherungs Gesellschaft.

HERM. ROSENTHAL.

A SHORT reference to the firm of Herm. Rosenthal will be found in the Batavia section of this volume. The business carried on at Semarang is very similar to that done at the head office. The local manager for the firm is Mr. Th. Hampe.

MR. LOUIS V. ARNOLD.

MR. LOUIS V. ARNOLD, who is now practising as a dental surgeon in Semarang, was born at Klaten, in the Soerakarta Residency (Java). He went to Holland to complete his education, and after passing through the public school at Haarlem he entered the Delft University, with the intention of taking his degree, and following the engineering profession in Europe. After three years' hard work, however, Mr. Arnold had a serious attack of malaria fever, and was compelled for his health's sake to leave the University. As he was debarred from study he turned his attention to modelling, carving, and sculpture. Two years later, through the enthusiasm of a friend, he was persuaded to start upon an entirely new career as a dental surgeon. In 1903 he went through a theoretical course in dentistry; in 1905 he took his degree at Utrecht, and straightway began to practise. Whilst in Utrecht Mr. Arnold was very successful in the treatment of several cases of cleft palate—innate or accidental—for the correction of speech, and further successfully collaborated in making a half jaw-bone with artificial joint. Mr. Arnold has also demonstrated before the Society of Dutch Dentists regarding similar cases. Returning to Java in 1906, Mr. Arnold purchased the extensive practice of Mr. Petrovic at Semarang. With a thorough knowledge and a wide experience of all branches of the profession, and with all the most modern appliances of dental surgery at his command, he has established an excellent and widespread reputation. His surgery and workrooms are replete with up-to-date scientific apparatus, and compare favourably with the large surgeries of European and American cities. Mr. Arnold's house is situated in Bodjong, one of the most attractive suburbs of the town.

MONOD & CO.

MONOD & Co., who have been in existence for twenty-seven years, having been established by Mr. C. L. F. Monod de Froideville

on April 23, 1882, are the oldest firm of general brokers and commission agents in Semarang. They handle all kinds of produce—kapok, cocoa, oil seeds, copra—but their chief interest is in the sugar trade. They buy sugar in very large quantities for European and Chinese export firms, and are the sole brokers for the Semarang branch of the well-known firm of Erdmann & Silcken. Formerly they were the buyers for Messrs. McNeill & Co. also, but since 1900 this firm have carried out their own purchases. For facilitating their business in shares, Monod & Co. have correspondents in Amsterdam, s'Gravenhage, Batavia, and Sourabaya.

In 1884 Mr. J. G. Thooft was taken into partnership by Mr. Monod de Froideville, and the name of the firm was changed to Monod & Thooft. Five years later, however, Mr. Thooft gave up his interest in the enterprise, and the old name was resumed. In 1892 Mr. Ch. Prins became a partner, and Mr. C. A. Monod de Froideville, a son of the founder, was appointed proxy. Upon the retirement of Mr. Prins, in 1899, Mr. C. A. Monod de Froideville was admitted into partnership. Eight years later, the senior partner resigned, and the firm was then reconstructed by Mr. C. A. Monod de Froideville, Mr. B. Compagnen, and Mr. W. F. Ch. van Oordt, the partners in the business at the present time. Mr. A. C. Kuiper has now been appointed proxy.

N. V. VAN HAFTEEN'S ADMINISTRATIE KANTOOR.

THE Naamlooze Vennootschap van Hatten's Administratie Kantoor carry on a large and important general broking and insurance agency business. They are the directors of the Oost Indische Zee and Brand Assurantie Mij.; the Bataviaasche Zee and Brand Assurantie Mij.; the Nederlandsche Lloyd; the Javasche Zee and Brand Assurantie Mij.; the Brand Assurantie Mij. Ardjoen; and the Brand Assurantie Mij. Veritas. Their agencies include the Ned. Ind. Hypotheek Bank; the Ned. Ind. Brand Waarhing Mij.; the Moeriah Tras Exploitatie Mij.; and the Anglo-Continental (late Ohlendorf's) Guano Works. They also act as agents for several sugar estates, arranging the transport of sugar from the mills to the town and generally superintending its export, and are the representatives, in Semarang, for the firm of A. Resink & Co., of Djocjakarta.

The business was established in 1864 by Mr. L. van Hatten, who came to Java from Breda, Holland, some thirty-five years ago. It was formed into a company with a capital of G. 100,000 in 1908. Mr. Van Hatten now holds the position of managing director of the enterprise, the committee of the Company comprising Messrs. J. H. Lohmann, J. H. L. Bergsma, and L. Schoutendorp. The success of the business from its inception has been due entirely to the initiative and enterprise of Mr. Van Hatten. He has had a large commercial experience, and is one of the best known men in business circles in the district.

GIJSELMAN & STEUP.

THE manager in Semarang for the firm of Messrs. Gijsselman & Steup is Mr. C. W. F. Happé. He became associated with the business some four years ago upon retiring from the army, in which service he held the rank of colonel of cavalry. A reference to the varied and important interests of the firm will be found in the Batavia section of this volume.



RESIDENCE, OFFICE, AND SURGERY OF DR. LOUIS V. ARNOLD.

A. PRINS & CO.

DURING the past ten years Messrs. A. Prins & Co. have won a recognised place for themselves among the principal sugar brokers in Mid Java. Their business was started in a very modest fashion by Mr. A. K. W. Prins, in 1899. Under careful guidance, the enterprise prospered, and in 1903 Messrs. W. A. Prins and R. Verspyck were admitted into partnership. The firm's interests have extended considerably since then and still steady progress is being made. Mr. A. K. W. Prins is a Hollander who has spent thirty-five years in Netherlands India.

**N. V. SEMARANGSCH STOOMBOT EN
PRAUWEN VEER.**

THIS thriving undertaking, with its head office in Semarang, was established in 1898.

JONKHEER L. G. DE JONGE, the second director, arrived in Java from The Hague about ten years ago. For the first two years he was interested in an import business, but since that time has been connected with his present firm, and has in a great measure assisted in bringing about the successful results which have attended the firm's operations. Jonkheer L. G. de Jonge carries out the duties of Consular-Agent for France in Semarang.

**SOESMAN'S EMIGRATIE VENDU EN
COMMISSIE KANTOOR.**

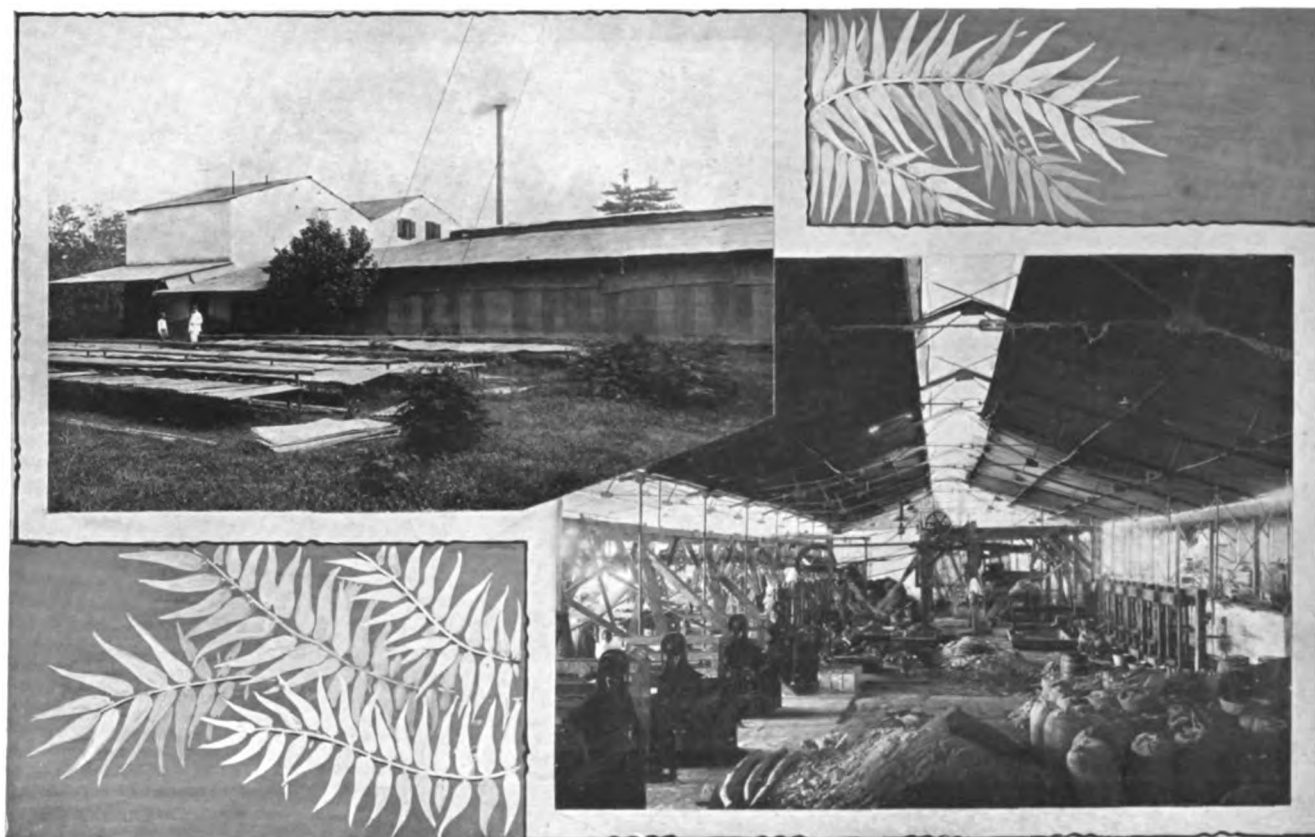
ALMOST all the Australian horses used by the troops in Netherlands India are obtained by the Government through Soesman's agency. Indeed, the firm may claim credit for the introduction of these animals, which now add so largely to the efficiency of the Dutch Indian army, for it was at their suggestion

When the business was founded it was carried on under the style of Soesman & Co. From 1885 to 1898, it was conducted as a private undertaking, by Mr. F. J. H. Soesman, but in the latter year it was transformed into a limited liability company, under its present name, with Mr. F. J. H. Soesman as the managing director. Mr. Soesman resigned in 1905, and was succeeded by Messrs. C. Soesman and L. D. Krusemann.

**N. V. OLIE AND BOENGKIL FABRIEK
PONTJOL.**

THIS company, with its head office in Semarang, was founded in 1903, with a capital of Fl. 100,000, under the direction of Soesman's Emigratie Vendu and Commissie Kantoor.

The factory manufactures different kinds of oil—kapok-seed oil, cotton-seed oil, ground-



N. V. OLIE AND BOENGKIL FABRIEK "PONTJOL."

Branches have gradually been added, and to-day include Muntok, Blinjoe, Soengeliat, Panghal Pinang, Koba, Toboali, and Soengeislal (Banca).

At the outset, the Company owned about a hundred lighters, with a capacity of 3,500 tons, and two steam launches. So successful have been their efforts, due to skilled management and a go-ahead policy, that at the present time the carrying capacity of the Company's fleet has been extended to about 6,500 tons, and they now own several steam-launches and one motor launch. The capital of the Company is Fl. 400,000.

Mr. J. van Ryn van Alkemade, who arrived in Java fourteen years ago, is the chief director at Semarang.

Australian horses were given a trial when the Sandelwood ponies, which had previously been used, were becoming scarce. The firm are well-known horse dealers, both in Australia and Netherlands India; they also import English saddlery, and act as general commission agents; but these interests, although large, are by no means the most important branches of the Company's business. Their chief attention has always been, and still is, paid to supplying coolies for the estates and mines in Netherlands India, the Malay States, and the Dutch West Indies, and in addition they conduct an extensive auctioneering business. Their activities, as will be seen, therefore, cover a good many departments of commercial enterprise.

nut oil, and coconut oil—which is disposed of locally; while the oil-cake is sold for fertilising purposes, or exported to Europe as cattle food. The oil is manufactured either by hydraulic pressure or by extraction, for which processes benzine is used.

A large cotton-ginning plant has also been erected, where cotton is cleaned for the European and Australian markets, both roller and saw gins being utilised.

N. V. MESTFABRIEK "JAVA."

THE original company, known as "Mestfabriek Semarang," was founded in 1886 with a capital of Fl. 150,000, but in 1902 it was reconstructed under the name of "Mestfabriek Java," and the capital increased to

Fl. 220,000. The head office of the Company is at Semarang, and the managing directors are L. Krusemann and E. F. van Zanten Jut. A branch office has also been established at Sourabaya under the management of Mr. E. Soesman.

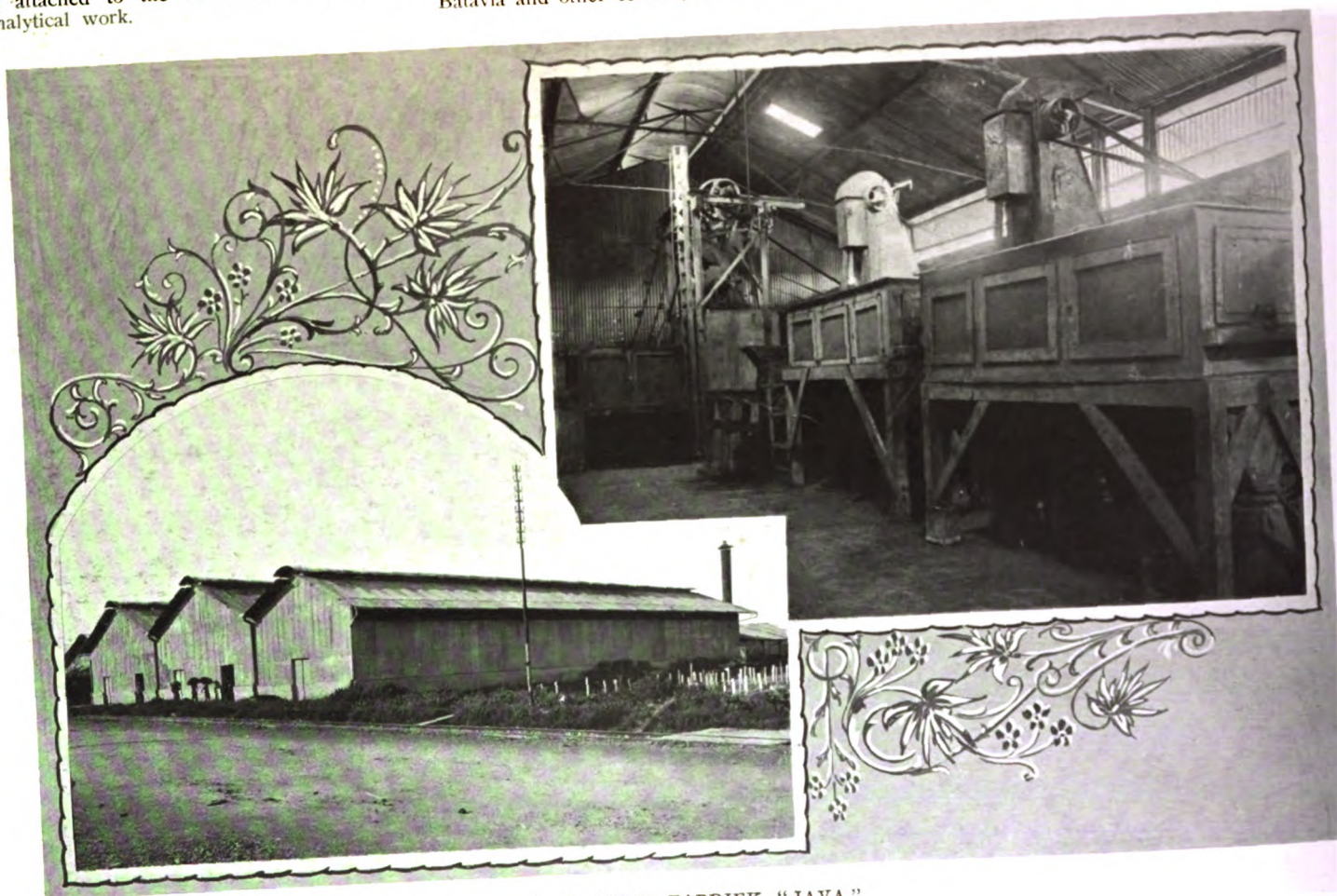
A large business is carried on in all kinds of fertilisers, specially in sulphate of ammonia, which is imported from Europe and Australia, and ground-nut cake from British India. Of the 35,000 tons of sulphate of ammonia used in Java each year, this firm is responsible for the importation of as much as 22,000 tons. The fertilisers are sold to the sugar, coffee, and other estates in Java, while bone-meal is exported to Japan. A chemical laboratory is attached to the office for carrying out analytical work.

and carrying trade between Australia, Java, and the Straits Settlements. To advance their interests they have recently opened a branch at Semarang, and have now nearly ready a fine steamer of 4,500 tons, with excellent passenger, cargo, and cold storage accommodation, to take the place of the *Airlie* and *Guthrie*, while the construction of another ship of similar size, to participate in the Eastern trade, is being contemplated.

THE STANDARD OIL COMPANY OF NEW YORK.

THE Semarang offices of the Standard Oil Company were opened in 1893. As in Batavia and other centres, brokers had been

water. And it was in order to meet this growing demand in Java, that the Aërated Water Factory—Hygeia—was established in 1896 by Messrs. R. Klaasesz & Co., of Semarang. The original factory was soon found to be of insufficient capacity, and in 1901 a new installation was begun. The works were completed in 1903, but the business grew so rapidly that in a short while Hygeia II. was incapable of meeting the demands made upon it. Negotiations were accordingly opened for the purpose of acquiring a certain three plots of land with a total area of 1,000 square metres. The land was the property of wealthy Arabs, and owing to the many difficulties raised by them the purchase was not completed for fully two years. When, however, the site had once been acquired no time was



N. V. MEST FABRIEK "JAVA."

GEO. WEHRY & CO.

THE Semarang branch of the firm of Geo. Wehry & Co. was opened in 1899 by Mr. T. E. Taylor. The present manager, Mr. J. Thole, came to Semarang direct from Europe to undertake the conduct of the business in 1900. The firm's interests have grown considerably during the last nine years, and at the present time a new building is being constructed in order that room may be provided in which to cope with the gradually extending trade.

BURNS, PHILP & CO., LTD.

MESSRS. BURNS, PHILP & CO., LTD., one of the most widely known Australian firms of merchants and shipowners, are well represented in Netherlands India, and do a very considerable part of the steamship passenger

previously employed to transact the business, and for some time after the offices were opened a few were retained in the service of the Company. Since 1899, however, the Company have undertaken the storage and distribution of their cargoes of oil and, having dispensed with outside agents, are now directly responsible for the conduct of every branch of their business.

The manager at Semarang, Mr. C. A. Edwards, has been connected with the Company for five years, but his experience of the oil trade extends over a much longer period, as formerly he was employed with the Asiatic Petroleum Company.

R. KLAASESZ & CO. "HYGEIA III."

THERE is always, particularly in tropical countries, a great demand for a good table

then lost in the erection of Hygeia III. A good water supply being unobtainable for cooling purposes, the water that had already been warmed by the machines was utilised, and in order that there might be a sufficient quantity always ready, some 200,000 litres are stored in a reservoir upon the roof of the building. Such an enormous weight could not, of course, be supported unless the strongest concrete had been used in the construction of the factory. The building is large and airy, and so planned that it can be easily cleaned.

In endeavouring to secure the various machines required for the manufacture of the aërated waters, some thirty-two factories in Germany, England, and America were approached, but owing to their lack of knowledge as to local requirements, it was two years before Messrs. Klaasesz & Co. had everything to their satisfaction. The apparatus



THE AERATED WATER FACTORY OF "HYGELA III" (R. KLAASESZ & CO.).

is lined partly with a thick layer of tin and partly with silver. The pump for the aerating portion is lined on the inside with silver, and has a glass piston. The pipes for carrying the water, which is of exceptional purity, are made of pure tin. The cooling apparatus was constructed by an experienced local engineer. The factory cost something like G. 150,000 to build, but the money was well invested, for to-day its manufactures are among the most highly favoured in Netherlands India.

The supervision of the factory is entrusted to trained people only, and rigid rules, in regard to cleanliness, are enforced. It is estimated that the annual output amounts to some 3,500,000 bottles.

EERSTE MANILA SIGAREN FABRIEK V.H. GLASER & CO.

MR. K. GLASER was the pioneer of the cigar industry in Java. He recognised that the preferential treatment accorded to Dutch cigars, as against those imported from Manila when the Philippines were a Spanish colony, afforded a splendid opportunity for the establishment of a factory for the manufacture of cigars from Manila tobacco, in the Dutch possessions. The difference in the excise payable on the cigars from the factory and the import duty on Manila cigars, amounting to as much as G. 10 per thousand, assured him of a very profitable return on his outlay, and, after the factory had been in working order for some years, he was enabled to cut prices so finely that the importation of Manila cigars was reduced to a minimum.

In 1891, the Eerste Manila Sigaren Fabriek V.h. Glaser & Co. was formed, with a capital of G. 250,000, for the purpose of continuing and extending the business which Mr. Glaser's enterprise had commenced and his capable and energetic management placed on a sound and paying basis. During the Spanish-American War, however, Manila tobacco gradually became inferior in quality, and cigars from Holland, which had previously been imported in very small quantities, caught the public favour, with the result that the output of the factory diminished in a year from 8,000,000 to 5,000,000 cigars. This induced the present director of the Company, Mr. Joh. C. Lebert, to commence the manufacture of cigars as they were made in Holland, and these very soon took the place of the Manila-shaped variety. The factory, which covers a considerable area of ground, is divided into departments for making cigars and cigarettes, and there are special rooms for sorting, box-making, and packing. When Mr. Glaser started the business he had to obtain his workmen from Manila. The natives of Java, however, quickly learned the art, so that there is now no need whatever for the employment of Philipinos. A good native cigar-maker can earn from G. 2 to G. 3 a day. At the present time, the staff of the factory consists of six Europeans and two hundred natives. The Company having their headquarters so close to some of the finest tobacco-growing centres in the world, can and do supply good quality cigars at a cheap rate. Their specialities are the Manila-shaped cigars, the Pointer or Dutch cigars, and Payacombo and other Indian cigarettes, composed of the highest selected grades of Java and Sumatra tobaccos.

The proprietor and managing director of the undertaking, Mr. Lebert, also carries on a general import and commission business under the style of Joh. C. Lebert & Co., and is ready to take up agencies for or consignments of iron and enamelled ware, pottery, white, grey, bleached, and coloured

yarns, and general provisions. Mr. Lebert has had some twenty-two years' business experience in Java, and is well acquainted with the local trade.

SOERABAYASCHE MACHINENHANDEL VOORHEEN BECKER & CO.

ALMOST anything associated with the general machinery and hardware trades can be purchased in Semarang from Becker & Co. They cater especially for the requirements of sugar factories, and their large and well-equipped showrooms, situated in the main street of the town, contain splendid stocks of every accessory required for carrying on the great sugar industry.

The business is a branch of the Sourabaya firm, and was established in 1905. It is in the charge of skilled and thoroughly experienced engineers.

VAN DER LINDE & TEVES.

THIS large Dutch firm, which has established so high a reputation for its up-to-date trading methods, has been carrying on business in Netherlands India for the past thirty years. It has a capital of G. 1,500,000, branches at Sourabaya and Semarang, and a buying house at Amsterdam, where Mr. P. Verschuyl, the firm's head director, is in charge. Every article that may be required by the sugar or other factories of Java—iron goods, machinery, paints, electrical goods, copper and brass goods—all are kept in stock. The Semarang branch, however, is organised on much the same lines as the branch in Sourabaya, and the long account of the multifarious activities of the firm, which appears in the Sourabaya section of this volume, may be taken as giving a fair representation of the kind of trade that is carried on in Semarang also. The business is steadily increasing, and in a very short time new offices will be erected at a cost of G. 120,000.

The general representative of the firm for the Dutch East Indies is Mr. A. A. Wittich. Mr. F. Jäger is their manager in Semarang.

J. H. SEELIG & SON.

THE name "Seelig," which is so well-known throughout the central parts of Java, has become recognised as a guarantee of good quality. It is quite rightly regarded as a guarantee of the excellence of the articles supplied. The firm was established under the name of J. H. Seelig in 1886, and it has gained its high reputation by the most careful supervision of every detail of its trade. In the first instance the business was carried on in Comedie Street, opposite the theatre. As it increased, new premises were acquired in the Parade Square, and subsequently in Heeren Street, while, even now, plans are in hand for carrying out considerable extensions and improvements. Mr. C. Seelig arrived from Europe to join the firm in 1894, and in 1900, Mr. Alex. Seelig, the son of the founder, came from Heilbronn (Wurtemberg), where he had recently completed his technical education in the piano factory of Messrs. Uebel & Lechleiter, to assist in the management of the enterprise. Three years later it was decided to open a branch establishment in Bandoeng. The firm's name was then changed to J. H. Seelig & Son, Mr. Alex. Seelig managing the head office at Semarang, and Mr. J. H. Seelig the new branch. When, in 1906, Mr. J. H. Seelig died, at the age of sixty years, after a sojourn of twenty-five years in Netherlands India, the business was divided. Mr. C. Seelig became

manager of the Bandoeng branch, which was the property of Mrs. L. M. Seelig (widow) and Mr. Alex. Seelig, the owner of the business in Semarang; orders for Bandoeng, however, were still executed by the Semarang establishment. In the early part of 1908, the Bandoeng branch passed into other hands, and Mr. C. Seelig opened a similar business in Sourabaya.

Messrs. J. H. Seelig & Son are agents for and importers of all kinds of musical instruments. Since 1880, they have been agents for the well-known pianos of Messrs. Uebel & Lechleiter, and recently for the excellent makes of Blüthner, Pfeiffer, Dörner & Son, Platze, A. H. Francke, Schilling, E. F. Gruss, &c. To those intending to purchase, the pianos of Messrs. Uebel & Lechleiter, Dörner & Son, A. H. Francke, and E. F. Gruss are particularly recommended by the firm, for they have proved to be the most suitable for tropical climates. They are agents for the organs built by Estey, Th. Mannborg, and John Malcolm & Co., and keep a large stock of wind (brass and wood) and stringed instruments manufactured by the most reliable firms in Germany, Bohemia, France, and Italy. A great variety of talking machines of the Gramophone & Typewriter Company, and other good makers, at prices ranging from G. 15 to G. 1,500, are to be found in their showrooms, as well as records, included among which are songs in the Arabian, Chinese, Malay, Javanese, and even the Stamboul languages.

Messrs. J. H. Seelig & Son undertake the repair of all kinds of instruments, and, as the work is executed under the supervision of skilled European workmen, the result is invariably successful.

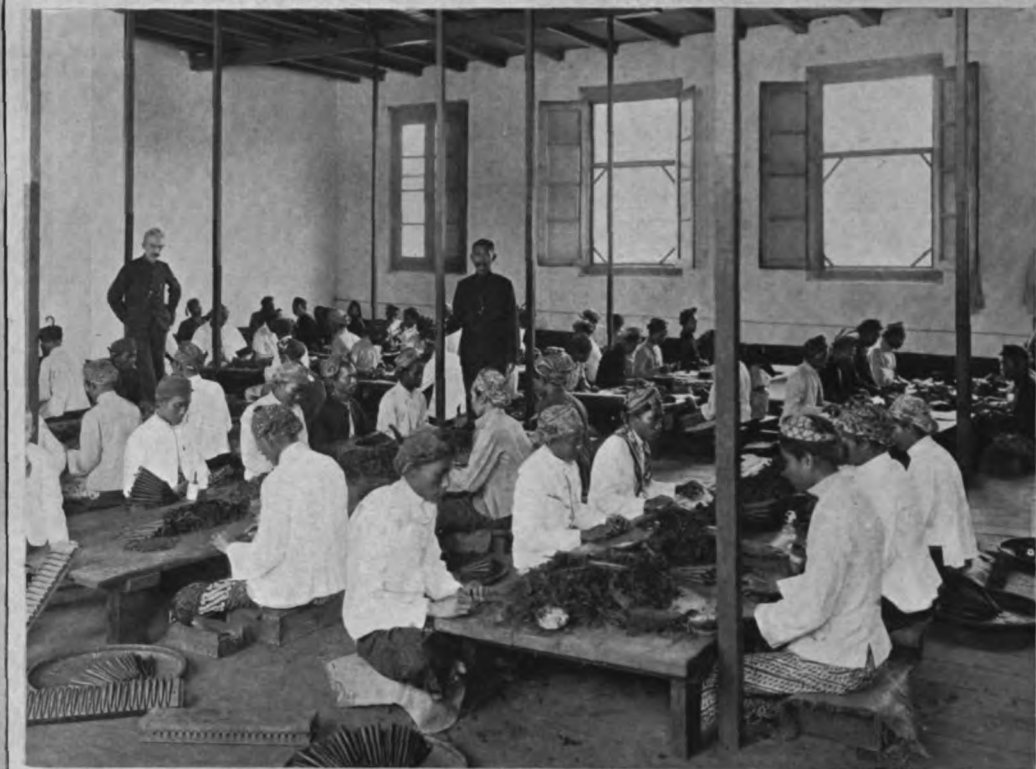
MACHINE EN WERKINGHANDEL MAAT- SCHAPPIJ "DE VLIET."

THIS firm, which carries on a large and important trade with machinery and general hardware, was founded in 1870 by Mr. Teves. It grew rapidly and was turned into a limited liability company with a capital of G. 750,000 by its founder in 1890. Five years ago, the Company's premises were rebuilt, and to-day they comprise a large and handsome building, with excellent showrooms and storerooms. The Company are in touch with the chief European markets, and have an office in Düsseldorf (Germany), which takes charge of all their European business. The Company carry very large stocks in Semarang, including all kinds of machinery used in the sugar industry, and many varieties of agricultural implements, while they make a speciality of electrical fittings.

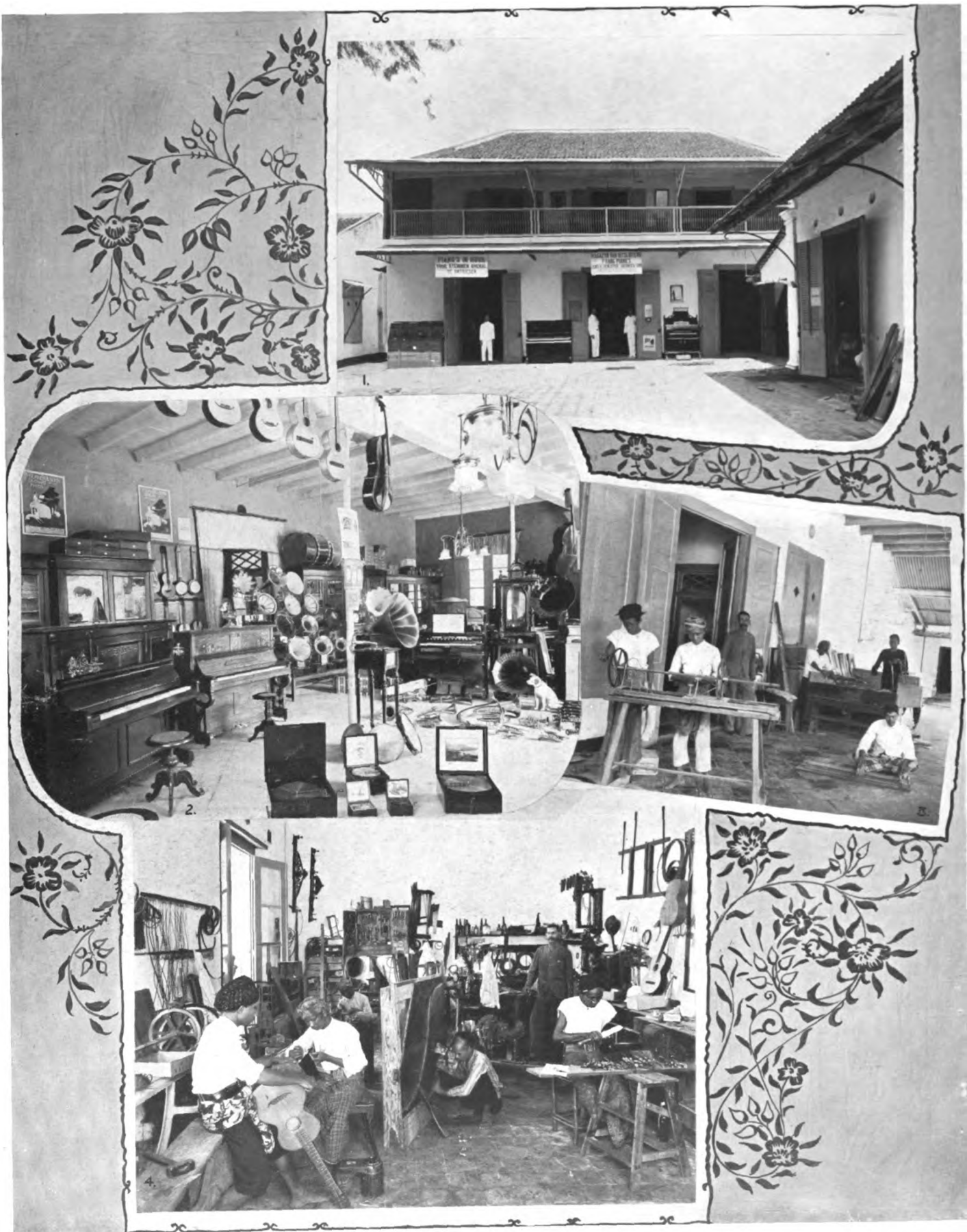
The local manager, Mr. A. Zuurmond, is a native of Rotterdam. He came to Netherlands India some twelve years ago, and has occupied his present position since 1906.

N. V. GOUD EN ZILVERSMEDERIJ VOORHEEN F. M. OHLENROTH & CO.

THE gold and silversmith's business carried on under the name of F. M. Ohlenroth & Co.—now the premier business of its kind in Semarang—was founded in 1880 by Mr. Ohlenroth. Some ten years previously, Mr. Ohlenroth had started a gold and silversmith's business in Sourabaya, but the newer enterprise proving the more profitable he concentrated his whole time and attention upon it, with the result that it very quickly took its place among the leading jewellery establishments in the town. At the end of 1901 the business was purchased by Mr. J. Hk. Schmidt, jun., who had formerly been manager of the Sourabaya branch and had been



CIGAR FACTORY AND PACKING ROOM OF THE EERSTE MANILA SIGAREN FABRIEK VOORHEEN GLASER & CO.



J. H. SEELIG & SON.

1. FRONT VIEW OF PREMISES.

2. SHOWROOM.

3. REPAIR SHOP.

4. WORKSHOP.

connected in one capacity or another with the firm for many years. Under his skilful management the business continued to flourish, and in 1906 it was converted into a company under its present title. Mr. Schmidt, jun., who retains the position of managing director of the Company, is a native of Amsterdam. He arrived in Java in 1885, and has spent the last quarter of a century between Sourabaya and Semarang.

The premises of the N. V. Goud en Zilver-smederij voorheen F. M. Ohlenroth & Co. are situated in Heeren Straat. They will be found to be well worth a visit.

NAAMLOOZE VENNOOTSCHAP VELODROME.

HUMBER cars and cycles and Michelin tyres were introduced into Semarang and district in the early part of this year, when the

a company with its present title in 1897, but still retains a preponderating influence on the directorate. Mr. Spier is a clever automobile and bicycle expert. Under his guidance the trade of the firm in Semarang is growing very rapidly.

N. V. WINKEL MAATSCHAPPIJ "H. SPIEGEL."

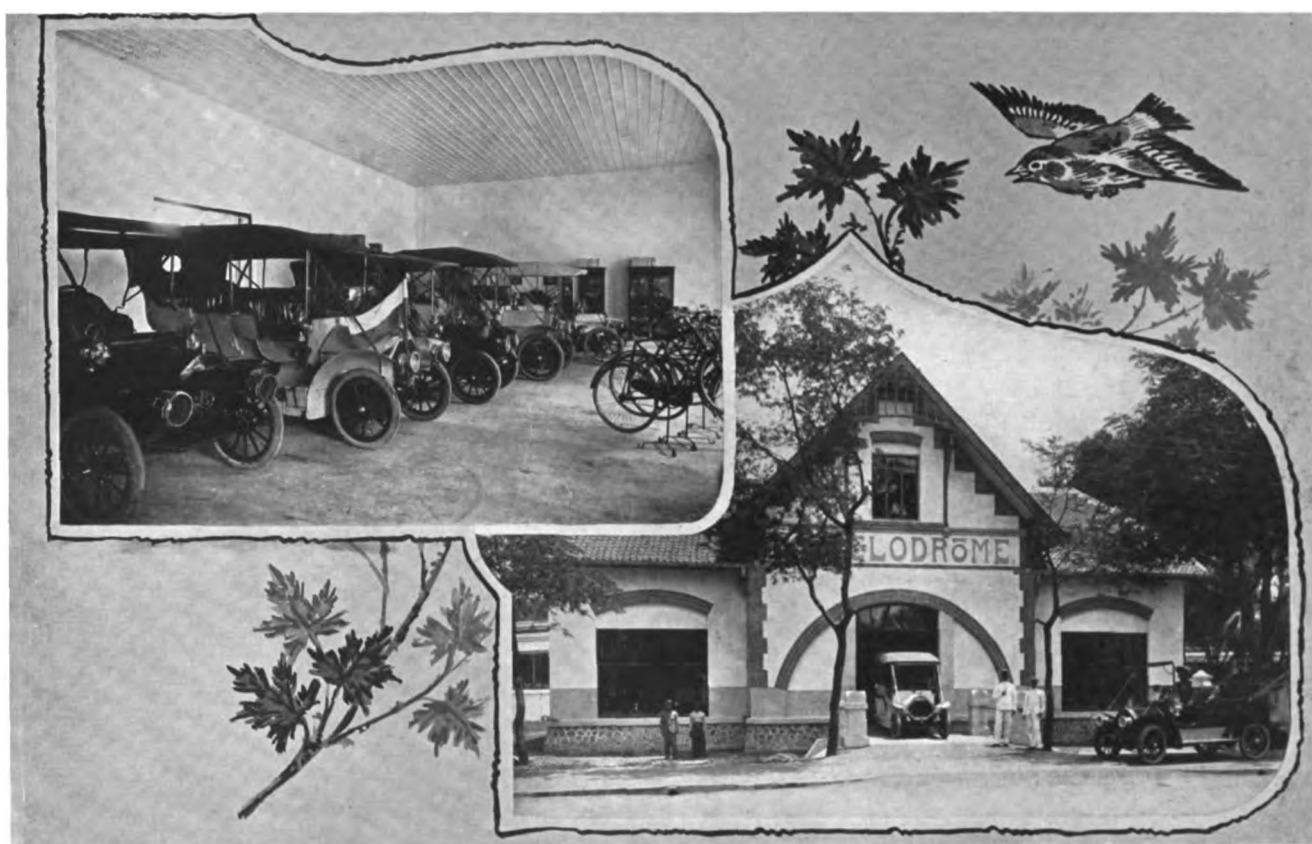
THIS well-known Semarang business was established in 1895 by a Mr. Addler. Mr. H. Spiegel was then manager; five years later he became the proprietor. The venture prospered, and larger premises were soon required. The new store has an area of 16,000 square feet, and is fitted with the most modern improvements. The handsome show-cases reveal a bewildering array of choice and useful articles. Among the goods stocked by the firm are cotton and

by the flourishing business of the Handel Maatschappij Lie Boe Ping. Established in 1879 by the late Lie Boe Ping, it soon obtained, under his careful guidance, a recognised place among the commercial houses in the town. In 1899 it was converted into a company, and to-day its name is well known and held in high repute throughout East Java.

The Company are general iron and hardware merchants, and stock a wide range of goods at their premises in the Chinese Camp. The manager of the business is Mr. Lie Goan Hoen, who is now assisted by Mr. Lie Tjay Liem, a son of the founder of the firm.

HANDEL MAATSCHAPPIJ THE ING TJANG (Merk-Kong Sing).

ALL kinds of locally-grown produce, but



PREMISES OF THE NAAMLOOZE VENNOOTSCHAP VELODROME, SEMARANG.

Naamlooze Vennootschap Velodrome established their branch in the town. The premises of the Company are conveniently situated in Bodjong, within a few yards of the Hotel du Pavillon, and comprise a large showroom and an excellent motor garage. Repairing shops, which will be under the supervision of a skilled mechanic brought specially from the Humber works in England, are also being erected. In addition to Humber cars and their accessories, the firm are agents for Messrs. Robt. Bosh & Stuttgart, the manufacturers of electrical automobile fittings.

Mr. J. F. Spier, who now personally superintends the Semarang branch, was the founder of the original business. He turned this into

linen goods, clothing, millinery, household goods of every description, plated and nickel ware, bicycles, typewriters, sewing machines, furniture, sporting goods, and so on. In 1903 a branch was opened in Tegal. The business was converted into a limited liability company in 1908. The present manager is Mr. S. S. Rappaport, who has been connected with the firm for the past eight years.

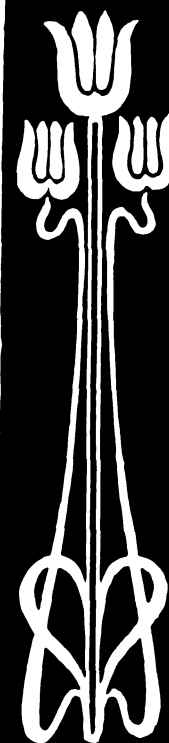
COMMERCIAL: ORIENTAL.

HANDEL MAATSCHAPPIJ LIE BOE PING.

AN excellent example of what enterprise, energy, and industry may effect is furnished

particularly sugar and rice, are exported by this Chinese firm. The business was founded about forty-nine years ago by Mr. The Ing Tjiang, and personally carried on by him until 1899, when it was formed into a company, under its present title, with a capital of Fl. 2,000,000. To-day it is one of the largest produce firms in Mid Java, its export of sugar alone amounting from one million to one and a quarter millions of piculs per annum. Branches have been opened at Sourabaya, Singapore, and Amoy, the firm's trade being chiefly carried on between British India, the Straits Settlements, China, and Siam.

The management of the business is still in the hands of Mr. The Ing Tjiang, who



BUSINESS PREMISES OF THE N. V. GOUD EN ZILVERSMEDERIJ VOORHEEN F. M. OHLENROTH & CO.



PROMINENT MEMBERS OF THE CHINESE BUSINESS COMMUNITY IN JAVA.

1. ONG PING YAU W (BO LIEM KONG-SEE), Sourabaya.
 2. TIO SIEK GLOK, Sourabaya.
 3. GO HOO SWIE, Sourabaya.
 4. TAN KING HOE, Semarang.
 5. GOE KEE HO, Semarang.
 6. KIM THING HOO, Sourabaya.
 7. LIE TAY LEAM (H.M. LIE BOE PING), Semarang.
 8. ONG TAY HONG (CHOP "HOO BIE"), Sourabaya.
 9. LIT SIONG HWAT (KIAN GWAN), Sourabaya.
 10. OEE KANG TING (LIE TO ANG & CO), Sourabaya.
 11. TAN BOEN HOK (TAN YAN GOAN & CO), Batavia.

12. TAN HIAN GWAN (SAN LIEM KONG-SEE), Sourabaya.
 13. GOE KEE SIOE, Semarang.
 14. ONG CHENG SAM (CHOP "HOO BIE"), Sourabaya.
 15. LIE GIM SUE (BAN HONG HIN), Sourabaya.
 16. TIO TING THANG, Semarang.
 17. LIM LIONG HWY (BAN HONG HIN), Sourabaya.
 18. SOEW SAN TONG, Batavia.
 19. TAN KONG HAN, Semarang.
 20. TAN HUI SIOE, Sourabaya.
 21. LIE GOAN HOEN (H.M. LIE BOE PING), Semarang.
 22. GAN KANG SIOE, Semarang.

23. TIOO SOY AN (TAN YAN GOAN & CO), Batavia.
 24. TIOE BIE SIOE (H.M. DIOE TIK), Sourabaya.
 25. OEE KANG HWAT, Sourabaya.
 26. TIOO BOE LIAW (HAP LIE HOO & CO), Sourabaya.
 27. The late TAN YAN GOAN.
 28. ANG SOEN HIAN, Batavia.
 29. TAN PING AN (TAN TOEN GWAN), Sourabaya.
 30. TAN TIAW TOWAN (BAN HONG HIN), Sourabaya.
 31. THE PIK TO CHU NEW SAMARANG STEVEDORE CO.
 32. KWEE SANG KUI, Batavia.
 33. DIOE HONG SWIE, Sourabaya.

is assisted by his son, Mr. The Pik Hong, and his nephew, Mr. The Oen Hiang.

GOEI KEH SIOE.

THE business of Goei Keh Sioe was established by its present proprietor some thirty years ago. All kinds of Java produce are handled, and a general import and export trade is carried on. Particular attention, however, is devoted to sugar and coffee export, while very considerable quantities of Australian flour are imported. During recent years the growth of the business has been remarkable; it has now connections in many parts of the world, and the annual "turn-over" reaches a large figure.

Mr. Goei Keh Sioe is the elder son of Mr. Goei Yam Tjiang. He is owner of a large amount of property in and around Semarang, and is well known and respected by all classes of the community. His success in business he attributes to determination, energy, and thrift.

GOEI KEE HO.

MR. GOEI KEE HO, like his elder brother, has been successful in building up a flourishing business in Semarang during the past fifteen years. His trade lies principally with China and the Straits Settlements; he deals

in all kinds of produce, but has always paid special attention to the export of Java sugar. Mr. Goei Kee Ho was born in Semarang in 1878, and is the son of Goei Yam Tjing, whose family came from Amoy some 130 years ago. He is well educated and speaks English fluently.

N. V. HANDEL MAATSCHAPPIJ TAN KING HOEI (Merk Sing Thay).

SOME twenty-two years ago this large and flourishing firm of general provision and wine and spirit dealers was established in quite a small way by Mr. Tan King Hoei. It was converted into a company with a capital of G. 50,000 in 1907, Messrs. Tan Kong Hoen and Tan Kong Han, nephew and son of the founder respectively, being now the managing directors of the undertaking. The headquarters of the Company are situated in the centre of that part of Semarang known as the Chinese camp, and form one of the best buildings in the neighbourhood. The Company's stock is large and well selected, most of their goods being imported direct from Europe.

Mr. Tan King Hoei is the descendant of a well-known and respected family, who came to Java from Amoy (China) some two hundred years ago.

NEW SAMARANG STEVEDORE COMPANY.

THIS Chinese firm was established by its present proprietor, Mr. The Pik To, in 1901. To-day the business can hold its own with any of a similar kind in the island. Stevedore work of every description is undertaken. The firm own one steam launch, three water boats, and keep large numbers of coolies in constant employment. Mr. The Pik To, who makes himself personally responsible for the proper conduct of the enterprise, is a man of considerable energy and business acumen. He was born in Java, and is the son of The Ing Tjing, who arrived from Amoy some forty years ago.

HANDELSMAATSCHAPPIJ GAN KANG SIOE.

FOR many years, Mr. Gan Kang Sioe, the proprietor of this well-known firm, has been interested in the export of all kinds of local produce, particularly to China and the Straits Settlements. The business was established some twenty-eight years ago, and Mr. Gan Kang Sioe from the first gave unremitting attention to every detail of the trade, with the result that he is to-day one of the largest dealers in general produce in the locality. In order to facilitate the conduct of his business in Formosa, Mr. Gan Kang Sioe has become a naturalised Japanese. He arrived in Java from Amoy some forty years ago.





KRAMAT GANTENG.

PENGAMPON.

SOURABAYA.

SOURABAYA, the prosperous and thriving commercial capital of Netherlands India, and the centre of the great Java sugar trade, stands at the mouth of the Brantas, a large river draining the fertile slopes of the Tengger Range and the extinct volcanoes of Ardjoeno and Wutierang. Separated from the mainland by a narrow strait lies the island of Madura, forming a natural breakwater for the roadstead. From May to November, during the height of the sugar season, the harbour presents a scene of bustle and life, which vies with the feverish activity of the largest entrepôts of trade in the Orient. The ships continually coming and going are representative of nearly every nation, ranging from the great tramps of European commercial lines to the small steamers of the local trade, while the harbour is alive with a great fleet of lighters and native craft busily conveying cargoes to and fro. In 1907, 1,077 steamers and twenty-three sailing vessels entered the harbour, with a net carrying capacity of 5,265,493 cubic metres, and 46,640 cubic metres respectively. In addition, native sea-going craft to the number of 21,000 visited the town from neighbouring islands, and the Moluccan Archipelago, whilst probably double that number, engaged in the Java coast trade alone, came and left without any notice being taken of their arrival or departure. For the direction of this considerable traffic, the harbour-master has the help of two assistants, one of whom is the pilot-master. There are sixteen pilots in the service. The personnel of the water police consists of two European inspectors, and the necessary native assistants, the river as well as the harbour being in charge of the water police staff. The outlook station is about two miles up the river, and is in telephonic communication with Sembilangan on the west coast of Madura, which is again in touch with Bangkalan Lighthouse, so that in this way early news is obtainable of incoming ships.

Approaching the town from the sea in the early morning, a beautiful panorama is gradually unfolded. Little can be seen of

the town itself, which has been built entirely on a flat, level surface, but the lofty ranges of the Tengger Mountains stand out clearly, with the great Ardjoeno in the foreground, and Semeroe, the highest volcano in Java, fretfully active in the far distance.

The name Sourabaya is derived from the two Javanese words: *soero*—a fish, and *boyo*—an alligator. According to an old native legend, the river was formerly, for many years, the peaceful home of an alligator. His privacy was at length challenged by a shark, who also wished to make the delta his permanent abode. A struggle for supremacy followed, but as the result was doubtful a compromise was effected, and the delta has since borne the name of both fish and saurian.

The traveller is conveyed from the ship to the shore in a native craft with immense lateen sails and a crew of three or four men. These passenger boats are larger and more strongly built than the sampan or native boats of Singapore and Chinese ports. The luggage of Europeans is rarely subjected to more than a cursory examination at the Customs House, but the Chinaman and the native do not escape so easily, for as smuggling, especially of opium, is rife, their belongings are searched most rigorously. Upon entering the river mouth, the first noticeable feature of the town to loom in sight is the Wilhelmina Tower, a tall structure with three "look-out platforms." A small charge is made for the privilege of climbing to the top, but once there the splendid view of the roads, docks, and surrounding country is a full recompense for the money and energy which have been expended. The tower stands at the edge of a park where deer may be seen roaming and grazing at their leisure. In the centre of the park is a monument erected to the memory of Pieter Baron Melvill van Carnbee, a captain-lieutenant of the navy, who died at Batavia on October 24, 1856; while on the south side are the houses of the European employees of the Naval Dockyards. Here, also, is the Naval Club, the "Modderlust," a large and comfortable institution, founded in 1805, which now numbers some 170 members.

Sourabaya is a long narrow city, hugging

very closely the banks of the river. Its breadth even in the widest part is inconsiderable. Leaving the Oedjoeng, or Point, the principal road passes the Naval Dockyard offices, at the imposing entrance to which stands a monument, erected by the naval officers and merchants of the city to the memory of His Excellency Vice-Admiral E. B. van den Bosch, who established the dockyard, and, by his efforts in making the river and harbour more navigable, did a great deal towards increasing and facilitating trade. The dockyards, before the rise of Japan as an Eastern power, were among the largest in the East. There are two floating docks, one capable of accommodating a 5,000-ton ship, and the other with a capacity of 1,400 tons, while some of the cranes used can lift 60 tons of metal. The docks are always full, as, including the navy, coast defence, and other Government ships, fifty large and many smaller vessels depend upon them for their repairs. The dockyard gives employment to 2,500 hands, 80 only of whom are Europeans, and at one o'clock, when labour for the day is over, the barefooted native workmen, streaming silently away to their homes, create an impression that is not easily forgotten. From the docks the road continues in a southerly direction for a full two miles, with the river on the right, and, on the left, various places of entertainment frequented chiefly by sailors from the merchant ships in the harbour. As it draws nearer the town the street is flanked by extensive and well-built storehouses, in and out of which hardy Madurese coolies, carrying picul after picul of produce, pass in a seemingly never-ending stream. Fort Prins Hendrik and the station of the Madura steam-tram lie at the junction of the first branch roads. The latter is the terminus of the ferry to Madura, with which island there is an hourly service. One branch road—the Kampeng Baroe in which are the offices and storehouses of many of the Chinese merchants of Java, continues along the river side, but is so narrow that vehicular traffic may proceed only in one direction during the busiest hours of the day. Similar regulations are put into force in many of the streets in the older parts of the city. The other



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1 and 5. PASSAR BESAR.

2. THE BIBIS BRIDGE.

3. PASSAR GLAP (OR DARK MARKET).

4. SOCIETEIT STREET, SHOWING CONCORDIA CLUB.

road, however, furnishes quite a contrast. After a sharp turn to the east it bends southwards again and runs parallel to the river through a beautiful avenue of tamarind trees, which afford grateful shade to the pedestrian. On either side are bungalows, which, although now occupied by civilians, were, as the name of the road, "Kamperment," implies, built originally as residences for military officers. This road opens out into that part of the town known as Kampong Arab, and by following the tramway line for a short distance, the district of Kali Semampir, on the left bank of another mouth of the river, is reached. The district between the two mouths of the river is the centre of trade activity, but there is no distinct line of demarcation, as in Batavia, between the business and residential quarters. European, Chinese, and native shops and warehouses are all jumbled up together in a

Kali-mas, stands just before the offices of the Resident and the police headquarters, where visitors obtain the *toelatings kaart* or permission to reside in Java. From the Red Bridge, for so it is named, an excellent view may be acquired of the river, which at this part is wide and usually crowded with lighters and native craft of all descriptions.

On the right bank of the river stands the Passar Glap, or "dark market," the ground floor of which building forms a local Petticoat Lane, where the stalls are crowded with a medley of articles which can be purchased after a little argument for astonishingly small sums. In this vicinity all the banks and most of the large wholesale European establishments are located, while along Kembang Djepoon are to be found the large and well-stocked shops of the Chinese provision merchants and Bombay traders. Further east the road changes its name to

the back of a large square, in the centre of which is a pretty monument erected to the memory of the men who were killed or died of wounds during the Bali Expedition in 1868. On the opposite side of the road are the offices of the military commandant of the station. Upon the right, and again trending southward, is a road leading to the Roman Catholic Church and schools. The church, a comparatively new building of red brick, is almost hidden by trees and the high walls of the Sisters' School. Opposite the church is an open plain, used generally as a parade ground for the garrison, and an exercise ground for the local Schutterij, upon the western side of which stands a beautiful Mahomedan mosque, whose great drum may be heard daily calling the faithful to prayer. From the "Missigid," by which name the plain is known, a short road joining the main road again leads to the Hoogere



1. KALI-MAS.

2. SIMPANG—EUROPEAN RESIDENTIAL SUBURB.

3. WILLEMSKADE.

heterogeneous labyrinth of streets and alleys. European brokers go hurrying to and fro with all the business haste of the brokers in Lombard Street, intermingling with the Chinese merchants and stately, slow-moving Arabs, while forcing their way through the crowd, jostling all and sundry, without a "by your leave" or "thank you," go the half-naked coolies carrying their loads of valuable produce. The piles of merchandise are sufficient evidence of the great trade that is going forward.

The two main thoroughfares are connected by a cross road—the Kembang Djepoon, "Javanese flower"—extending from river to river. The bridge over the main stream or

Tjantian, and, passing the Chinese Club and the offices of the Chinese Chamber of Commerce, enters the Chinese residential quarter. Turning to the south from the Red Bridge is the main street of the city, known in this part as "Willemsskade." On the one side it is open to the river, while upon the other are the large and unpicturesque buildings of various commercial firms. Continuing in a southerly direction, the general appearance of the town begins to improve; native shops, and dusty, dirty narrow streets are left a little in the background; there is more open space and trees affording grateful shade at more frequent intervals. The military barracks, which are situated in this district, stand at

Burgher School, where upwards of five hundred children obtain a good secondary education. To the south of the barracks, also, but in the main street, which is continued under the name of Societate Street, are most of the large European retail establishments. Past the Concordia Club are the public gardens, where every Sunday evening a band plays for an hour or so. These open-air concerts attract a large section of the European population, and are deservedly popular, for the standard of music is high. The large iron clock at the entrance to the gardens was presented to the city by the English residents on the occasion of Queen Victoria's Diamond Jubilee in 1897.

The main road continues south to the Restaurant Grimm, one of the most conspicuous buildings in the city, where upon most evenings in the week, but especially on Sunday, a large and fashionable crowd usually congregates. It is a smart modern café, possessing an excellent string band, and is quite a recognised meeting place for the *élite*. At this point, the main artery divides itself into two streets, the right of which, the Passar Besar, leads to the Aloon Aloon Tjontong—a small square, which, on account of the monument erected there to Von Bultsingslowen, a soldier who distinguished himself in Achin, aspires to the name of Bultsingslowen Park. The continuation of the main thoroughfare, which again changes its name, and is now called Gemblongan, leads into the chief European residential quarters of the town, Toendjoengan and Genteng, and to Simpang. In this part the roads are lined with feathery tamarind trees, which form pleasant avenues for driving in the cool of the evening.

after passing the club, which stands in its own spacious grounds, extending from the road to the river, and the Stads-verband and Military Hospitals. From Goebeng Bridge, the largest in Sourabaya, there is another charming view. Fleeting glances may be obtained of distant mountain ranges, whilst above the weir, some 150 yards from the bridge, the river stretches away in a manner that recalls some of the beautiful reaches of the Upper Thames. Here and there the water is studded with lilies, and sometimes in the early morning a European skiff or pair-oar outrigger may be seen gliding over its placid surface. Kayoon Road, on the west side of the river, is considered the healthiest part of the town, and it is certainly the coolest. The three roads, Simpang, Kayoon, and Kali Asin, form a triangle, which ten years ago was a swamp. The transformation that has been effected in so short a time is remarkable. The swamp has given place to fine roads, now nearly filled with modern villa residences, and everywhere

well lighted, and well cleaned and watered, and, providing they were a little wider, would give no cause for complaint even to a motorist. Public conveyances are of two kinds. A two-horse vehicle, something like a "victoria," may be hired for 75 cents the first hour, and for 60 cents each succeeding hour. These conveyances have the singular name of "kosong," meaning in Malay, "empty." It is probable the name had its origin in the form of interrogation used by the residents when desirous of knowing if the vehicle was disengaged. The dog-cart or "dog-kar" is really a "dosa-dos," a one-horse trap which is generally faster than the "kosong," although not so comfortable. The price for the hire of a "dog-kar" is 50 cents an hour.

THE MUNICIPALITY.

The Municipality of Sourabaya, like all similar bodies in Netherlands India, is still in its infancy, and has not yet been granted



1. CHINESE QUARTER.

2. ARAB QUARTER.

3. NEW CHINESE TEMPLE.

Here, in spacious grounds, stands the Residency House, and opposite is Krosen Park, a small area containing much beautiful foliage, and many flowering trees, plants, and palms. An image of the Buddha, colloquially named "Djogodolok," surrounded by several smaller gods, stands in an enclosure on the south side of the park, and offerings of lotus, tjampaka, and other sweet-smelling flowers which are daily laid at its feet prove, in spite of their conversion to Mahomedanism, that the natives cannot forget their old forms of worship. The Simpang Road runs parallel to the river, but no glimpse of the water may be seen until

trees or embongs, as they are called, have been planted. The centre of the triangle is occupied by a square called Scheepmakers' Park, which boasts a bandstand, where every Thursday evening a concert is given by one of the town bands. The Cricket Club also has its ground near here, and house property in the locality has increased in value by leaps and bounds, and now offers a much more favourable return for investment than in the suburbs of many large European towns.

The roads of Sourabaya are well kept. Most of the streets are first macadamised and then coated with asphalt. They are

those powers which would entitle it to consideration as an important administrative organisation. The instruction for the formation of twelve municipalities, of which Sourabaya was one (as the commencement of a plan for a widespread system of local government in the Dutch East Indies) was issued by the Government on June 23, 1903. The following year, the decree was drawn up regulating the powers of such municipalities and setting forth the qualifications for membership.

The municipalities were established on March 19, 1905, but it was not until April, 1906, that the Council in Sourabaya

commenced its duties. The Council consisted of 23 members: 15 Europeans, 5 natives, and 3 foreign Asiatics—2 Chinese and 1 Arab. The Assistant Resident became President of the Council *ex-officio*. A grant of G. 284,300 was arranged for annually from Government moneys, for the maintenance and repair of roads and bridges, the control of open spaces, parks, gardens, and cemeteries, the lighting and watering of the streets, for all of which matters, within the municipal boundaries, the Council was held responsible, whilst after the water-supply service was taken over, it also became answerable to the Government for the sum of nearly two and a half million guilders, as representing part of the cost of these great works. It very soon became apparent to the members of the Council, however, that the sum placed at their disposal was quite inadequate for the work they had to carry out, and ultimately a further allowance of G. 180,000 was made by the Government.

The councillors have been zealous in the performance of their duties and have already accomplished much, while many urgently required improvements in sanitation, drainage, and markets, may be confidently anticipated in the near future.

THE WATER SERVICE.

As far back as 1872 schemes were set on foot to give Sourabaya a pure water supply, and several springs in the mountains were tested. An attempt was also made to bore artesian wells, but it was abandoned, after a depth of 300 metres had been reached and no good water found. From 1873 to 1889 suggestions innumerable were made for overcoming the difficulty, one being to filter the river water, but the only two practical schemes were those for obtaining water from springs—one in Pasoeroean, at Oemboelan; and the other at Kasri, near Bandil. It was estimated that the Kasri scheme would cost about G. 2,800,000, while to obtain water from Oemboelan an expenditure of four and a half millions would be necessary. The Kasri scheme was adopted, and soon afterwards preparatory works were commenced. The two springs are named respectively Tojo Arang and Plintahan. The former is 37 kilometres from Sourabaya and 107 metres above the sea-level, and has a capacity of 62 to 73 litres a second. The latter, which has a capacity of 100 to 125 litres a second, is 41½ kilometres distant from the town, and 204 metres above the sea-level. Thus 170 to 190 litres of water are available for the requirements of the population every second. This quantity is 40 per cent. more than will be needed in 1918, when it is estimated the population will have increased to 225,000. A census in 1903 showed the population of the town to be 160,400. The waterworks, once begun, were pushed on with all possible speed. Under the excellent management of Mr. Weys, reservoirs were constructed at Porrong, Sidoardjo, and Wonokromo, with mains capable of conveying 0.750 cubic metres of water a day. The reservoirs are built of stone in the most modern scientific manner, the high-service reservoir at Wonokitri (Wonokromo), which has a capacity of 0.250 cubic metres and cost G. 121,000, being especially constructed to guard against changes of temperature. Great precautions were also taken to avoid all possibility of contamination. The rivers presented one of the principal difficulties to the engineers. They were, however, successfully crossed by the utilisation of the railway bridges, and to prevent

vibration of the mains the plan of hanging the pipes under the girders was adopted. On October 8, 1903, Mr. Lange, the Resident of Sourabaya, opened the first faucet, and the town received a boon that has proved of incalculable benefit for Europeans and natives alike. A three days' feast, in which the whole population joined, was held to celebrate the event, and congratulatory telegrams were received both from the Queen and the Governor-General. Before 1903, not a year went by without cholera claiming its victims, and often the dreadful tropical scourge became an epidemic. Since the installation of the water system, Sourabaya has been absolutely free from the disease, and is now one of the healthiest towns in Netherlands India.

The original estimate of G. 2,800,000 for the water service was slightly exceeded, and the whole work cost the round sum of G. 3,000,000. The fact that from the time the first valve was opened up to the present (1906) the supply has never had to be cut off, even for a moment, is a tribute to the thoroughness with which the work was done, and the care with which the material for the work was selected.

The following table shows the water consumption from July to December, 1906, in cubic metres:—

	July.	August.	September.	October.	November.	December.
Naval Department	4,780	4,061	4,362	5,187	5,082	2,916
Military Department	14,502	14,513	12,035	11,032	12,915	11,467
Other Departments	6,616	6,975	6,678	5,685	7,466	7,217
Industries	4,285	4,619	4,652	4,554	3,714	3,633
Water Contractors	4,395	5,406	3,000	4,120	4,152	3,768
Charitable Institutes	310	314	383	406	310	200
Road Watering	13,593	14,087	12,645	14,314	9,330	9,060
Private Consumption	19,487	21,759	21,782	21,200	20,038	19,509
TOTALS	67,968	71,735	67,437	67,407	62,935	58,823
	Guilders.	Guilders.	Guilders.	Guilders.	Guilders.	Guilders.
which is valued at the sums of	12,489.71	13,433.08	12,756.94	12,526.61	12,210.50	11,296.28

CEMETERIES.

The old European Cemetery, situated in Krambangan, in the old town, was the burying place for Europeans for over fifty years. It is now, however, entirely overgrown with grass and enclosed in high walls. The European Cemetery in Pencil was opened in 1848. It was first in charge of a local committee, the Municipal Commissioners taking it under their control in January, 1908.

The Chinese Cemetery is situated in Koepang, about two and a half miles from the Chinese district. There is a proposal on foot that this also should be placed under the charge of the Municipality. Up to the present time, it has been managed by a Chinese society, the "Hokien Kongsioe," established more than fifty years ago with a capital of G. 70,000, raised by subscription. The committee of the society brought such a well developed commercial instinct into the management of their affairs that, by selling burial sites and in other ways, the society's original capital was doubled. Forty years after its establishment, the society was in so flourishing a condition that it was arranged to return the first subscriptions to the donors or their descendants, and after considerable difficulty this was done. The funerals conducted by the society are of three classes; poor Chinese people are buried, and mourning for the family supplied, free of cost. The president of the society is Major The Toan Ing, who is ably assisted by a committee of eight.

The Native Cemetery is situated about two miles south-west of the old town, and is managed by a native committee.

HOSPITALS.

The Sourabaya Nursing Establishment Ngamplak was established as a private hospital in Sourabaya by Government decree, dated June 9, 1897. The management was vested in the hands of a committee composed of a president, a vice-president, a secretary, an assistant secretary and treasurer, and four members. A capital of G. 100,000 was raised in the first instance, and on different occasions this has been supplemented by means of lotteries, fancy-fairs, and concerts, but the institution is still largely dependent upon the generosity of the public. At the end of 1907 a balance in cash amounting to G. 20,767 lay to the credit of the institution. During that year 400 patients were treated, of whom 171 were men, 167 women, and 62 children. Of these 93 were first-class patients, 127 second-class, and 144 third-class, while 4 were treated at a reduced tariff and 32 were taken in free of cost. Treatment was also accorded 43 out-patients, but, owing to the staff being insufficient, 32 applicants for home-nursing had to be refused. During the year, 177 operations were performed, as

against 72 in 1906, and 37 the previous year. The charges for patients, exclusive of doctor's fees, are: First-class, G. 7.50 a day; second-class, G. 6 a day; third-class, G. 3 a day; whilst nursing in private homes must be paid for at the rate of G. 7.50 a day.

The nursing staff comprises a lady director, seven qualified nurses, and four probationers.

The two other hospitals in Sourabaya are the Military Hospital and the Stads-verband, both of which are under Government control.

SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.

This society, which has done a great deal of good work in Sourabaya, was formed some few years ago. Its management is in the hands of a committee, consisting of the Resident as patron, Mr. John Campbell as president of the society, and six members. One useful method that has been adopted for bringing cases of cruelty to the notice of the authorities is by the distribution among the members of post-cards, so that when any act of cruelty comes under their notice they may at once, and with a minimum amount of trouble, notify the Assistant Resident, who is in charge of police affairs. The Government Veterinary Surgeon is a member of the Committee.

HANDELSVEREENIGING.

The Kamers van Koophandel in Netherlands India are not, as the name would imply, associations of business men formed

for the purposes of carrying out the ordinary propaganda of chambers of commerce as those institutions are known in British Colonies. The members of these bodies are nominated by the Government, and are nothing more nor less than advisers to the Government in trade questions. A Chamber of Commerce, in the generally accepted sense of the term, was established in Sourabaya in 1851, through the joint action of the following firms: The Handels Maatschappij, The Java Bank, Messrs. Adam & Co., Van Eck & Co., Fraser Eaton & Co., Granpre Moliere & Co., Hoekatra Gysing & Co., P. Kervel & Co., Major Matzen & Co., Friedeman van den Berg & Co., and L. Johann.

At the meeting called to arrange the necessary preliminary details for the foundation of such an association, it was decided that the Handelsvereniging—for so the association was named—should endeavour first to advance commerce in all its branches, and to represent the interests of the members in any just dispute with the Government, and secondly, to establish relationship with commercial associations of a similar nature in Europe and other parts of the world, and to publish market news and information regarding other matters of importance to traders. The membership of the Handelsvereniging has fluctuated during the past eight years from forty-five to fifty-five firms. The annual subscription of G. 250 is rather prohibitive, but efforts to reduce it have been unsuccessful. In a return recently issued by the Chamber, 64 firms are stated to have been declared insolvent during the year 1908. Two of these were European firms, and the remainder foreign Asiatics, i.e., Chinese and Arabs. The total amount of liabilities amounted to G. 2,841,717.63, while the assets were estimated to realise G. 1,488,736.61.

CHINESE CHAMBER OF COMMERCE.

A Chinese chamber of commerce was established in Sourabaya in 1906. It has proved of great use as an arbitration board, having already saved much litigation in commercial disputes. The Association is affiliated with all similar trade societies in China. The founder and first president of the Chamber was Mr. T. H. Oei, then the manager of the Sourabaya branch of the firm, "Kian Gwan." He was succeeded by Mr. Lie Siong Hwie, while Mr. Ong Tjin Hong is now vice-president. A committee of fifty manage the affairs of the Chamber, which has a membership of about a thousand.

The smallest trader may become a member of the association, the amount of subscription payable being arranged upon a sliding scale from G. 1 to G. 10 a person a month. Each member pays according to his commercial standing, the actual amount being decided by a sub-committee. The amount of the subscription paid does not affect the subscriber's voting power.

MUSICAL SOCIETY OF "ST. CÆCILLIA."

The principal Musical Society of Sourabaya, the "St. Cæcillia," was founded as far back as 1848. Ever since, it has been an integral part of the social life of the city. In writing of the society in the *Weekblad van Indie*, Mr. M. van Geuns says: "The first twelve years of the history of the society are clouded in obscurity, as all records of its doings are lost. The name St. Cæcillia dates from 1860, previous to which time the orchestral and vocal sections were known by the names "St. Cæcillia" and "Apollo" respectively.

They were founded by Messrs. Bangert and Sloet van Oldenburg. The most noticeable feature in the existence of the society has always been its poverty. The fairy whose duty it was to look after the welfare of its youth, forgot to arrange for a full purse as well as a long life. Again and again complaints of want of money have been heard, and the trouble still exists."

In 1861, permission was obtained to hold a lottery for G. 100,000. The greater part of this money was used in transforming the theatre into a good concert-room; a second lottery was held in 1868, but the proceeds were soon exhausted, and the society found itself in its old state of indigence. Between 1860 and 1870, a first violinist for the orchestra was engaged in Holland. Twelve hundred guilders were sent to cover his expenses on the journey to Java, but the good ship *Capelle*, upon which he was travelling was wrecked near Rio de Janeiro. A further sum of G. 900 was forwarded to enable him to continue his journey, but the artist never arrived in Sourabaya.

It now has a membership of 130. Meetings are held every Tuesday evening in the Lodge's own building, which stands on a large piece of ground in Toendjoengan. Judging from the rapid manner in which the price of land is increasing, the site will soon be one of the most valuable in Sourabaya.

SIMPANG CLUB.

The "Simpang Club" has a record of sixty years. It was founded by some thirty of the leading residents of Sourabaya, the original club-house being the premises now occupied by Messrs. Verwey & Lugard, at the corner of Embong Malang. During the first few years, the subscription was almost prohibitive; it was gradually reduced, and is now G. 5 a month, with an entrance fee of G. 10. About four years ago, a scheme was set on foot for acquiring the present club site between the Simpang Road and the river. Five per cent. debentures were issued to the amount of G. 150,000, repayable to holders at the rate of G. 3,000 per annum. This



SIMPANG CLUB.

Among those who have devoted years and talent to the welfare of the society, Messrs. John G. Cook, Kruseman, and G. Calati deserve special mention. The latter, who wielded the baton for a period of twenty-five years, brought the orchestra up to a pitch of perfection seldom reached by amateurs. On January 31, 1895, while conducting the performance of one of his own compositions, he suddenly fell down, and shortly afterwards expired. On the occasion of the sixtieth anniversary of the society, his works were played by the orchestra as a tribute to his memory. On the same occasion, homage was also given to Mr. F. d'Arnaud van Boeckholtz and Dr. Prange for their invaluable services as conductor and pianist respectively. The "St. Cæcillia" Society has a membership of 180, 42 of whom are instrumentalists.

FREEMASONRY.

The "Loge de Vriendschap" was inaugurated in Sourabaya on December 28, 1908.

amount, together with G. 60,000 which the club had already saved, was sufficient to build the present palatial club-rooms, the plans for which were drawn by Mr. Westmaas. The whole building and grounds are lighted with electric light. The club forms the centre of the social life of the city, and twice a week musical evenings are given, on Fridays before dinner and on Sundays after dinner. The present committee comprises: Messrs. Van Houten (president), Gairdner, Blok - Wybrandi, Soesman, and Stibbe.

SPORT.

FOOTBALL.—A fair proportion of the younger generation in Sourabaya are enthusiastic devotees of sport in one or other of its various branches, and curiously enough, in spite of tropical sun and the consistently high temperature, the English winter pastime—football—seems to attract the largest number of perspiring adherents. A



RESIDENCE AND DENTAL SURGERY OF DR. M. SCHOPPE.

football league has been established in the town, and seven first-class and six second-class clubs take part in its competitions, two of the clubs being Chinese. The League arranges a series of matches each season, the winners of which hold the "championship" for the ensuing year. There are two other trophies open for competition. The League is governed in a similar fashion to the English football leagues, by a committee consisting of a president, vice-president, secretary, treasurer, and three members, while each club has the right to send two representatives, with power to vote, to the general meeting.

CRICKET AND TENNIS.—Although cricket has been played in Sourabaya for many years past, it was not until July, 1905, that the cricket club, as at present constituted, was inaugurated. A company was then formed with a capital of G. 40,000; of this sum, G. 23,000 were devoted to the purchase of ground between Embongs Sawo and Gaïam, in the centre of the residential suburb, while the remainder of the money was used in laying the turf and building the pavilion. The capital comprised, in the first instance, 400 debenture shares of G. 100 each, upon which interest at 5 per cent. was paid. Fifty-four shares have now been purchased by the club, and it is hoped that the whole property will ultimately come into their possession.

Those who play both cricket and tennis pay G. 4 a month subscription, while tennis members pay half this amount. There is an annual match between the members of the club and an eleven raised by Mr. Bingley, but otherwise the cricket matches are necessarily confined to scratch games between the club's own members, or to an occasional match with an eleven from a warship in harbour. The cricket season lasts from May until the end of November, while tennis is played on the asphalt courts all the year round.

GOLF.—A Golf Club was founded in Sourabaya in July, 1898. For ten years the ground reserved by the Government for military purposes was used by the club members, but in September, 1908, new links were prepared at Goenoeng Sarie, a village about four miles from the town, where the land, which is gently undulating, reaching in one place a height of about 125 feet, is admirably suited to the "ancient and Royal game." The first president of the club was Col. Schener, and Mr. L. J. H. Leslie Miller, the first captain. There is an annual match for the Inter-Port Golf Shield, instituted in 1902. This has been twice won by Sourabaya and four or five times by Semarang.

ROWING.—The Rowing Club is a comparatively new institution in Sourabaya, dating its establishment only from May, 1907. It is in some respects, however, more favoured than many similar organisations in the East. The river between Wonokromo and Goebeng, for instance, provides an ideal stretch of water either for pleasure boating or for training in the more serious art of oarsmanship. The boats owned by the club consist of two four-oared "outriggers" and one four-oared inrigged boat, one "pair-oar," two tubs, and two wherries. A regatta, which was so successful that it is now proposed to make it an annual fixture, was held on the club's anniversary last year. This season a cup has been presented for competition among the members by Mr. Price, of the Bombay-Burma Trading Corporation. The club have already purchased a piece of ground on the side of the river near their boat-house, and intend,

in the near future, to extend their lawn and to erect a pavilion there. The secretary of the club is Mr. R. G. Leegstra.

EAST JAVA STEAM TRAM COMPANY.

THIS company was founded in 1883. Its lines, as indicated by the name, are limited to the eastern portion of the island of Java. They are divided into two entirely separate sections—the Oedjoeng-Krian line, some 22 miles long, joining the Port of Sourabaya with Krian, a village some few miles south of the town, where a sugar factory is situated, and the Modjokerto-Ngoro-Dinoyo line, which has a total length of 41.8 kilometres, about 25 miles, and traverses a district containing six sugar estates, several coffee estates, and a timber estate. For the first-mentioned line the Company holds a concession for fifty years; for the Modjokerto-Ngoro-Dinoyo line the concession is for ninety-nine years. The Government will not, however, allow the two sections to be joined. The Oedjoeng-Krian section is reserved for passenger traffic only, and about 3,600,000 natives use the line every year between the State Railway Station near the post office and Simpang. Europeans, however, make little use of the trams, because there is small need for them to do so; the commercial offices are not, as in Batavia, far removed from the private residential quarters. Owing to the narrowness of the streets a single line only has been laid in Sourabaya; the gauge is 1'067 metres. Ten thirteen-ton Beych and Peacock locomotives, for which oil fuel is used, are in requisition on the line between Oedjoeng and Sepandjang; between Sepandjang and Krian nineteen Backer and Ruel locomotives are sufficient for the needs of the service. The carriages carry forty-nine to sixty-six passengers. The line between Sepandjang and Krian passes through a thinly populated district, and the revenue only just about covers the expenses. The financial result for the whole section, however, is quite satisfactory, for in 1908 the revenue realised between Oedjoeng and Sepandjang averaged G. 34.22 a kilometre per diem. The Modjokerto-Ngoro-Dinoyo line yielded G. 8.84 a kilometre per diem last year.

The Company has a capital of G. 3,000,000 of which half has been issued. The debenture loan amounts to G. 1,042,000. The head offices are in The Hague, where the directors, Messrs. J. D. Donker Duyvis and J. Th. Gerlings have charge of the Company's interests. Mr. H. s'Jacob, Batavia, is the Company's representative-in-chief in Netherlands India, while Mr. J. D. Ruys carries out the duties of local manager.

DENTAL SURGEONS.

Dr. M. Schöppe, physician and dental surgeon, was born in Berlin in 1866, and in 1890 took his medical degree at Würzburg (Bavaria). After devoting seven years to practising in Germany, he came to Java, and remained in Batavia for about a year. He then proceeded to Sourabaya, where, after a short time he succeeded in establishing a large *clientèle*. Latterly, he has devoted the whole of his attention to dental work, and has been most successful. His laboratory is replete with all up-to-date accessories, and his scientific apparatus includes a complete X-rays outfit. There is also a special operating room, where indigent Javanese are treated. All the instruments used by Dr. Schöppe in the practice of his profession are driven by electric power, and his entire

premises are lighted by electric light, supplied by means of an 18-H.P. motor, driving a dynamo of 75 amperes. The doctor is an enthusiastic motorist, and owns a couple of fine cars. Whatever time he can spare from his labours, he devotes to this form of recreation.

Dr. D. A. Kets, who has been practising as a dental surgeon in Sourabaya for the past two years, is a graduate of the University of Utrecht. After taking his degree in 1898 he was for twelve months engaged in professional work in Holland. In 1900 he came to Java, and for a period of something like six years resided in Bandoeng. It was only in 1907 that he came to Sourabaya, but during this comparatively short time he has worked up a large practice and his name has become widely known as an expert in "crown" and "bridge" work, in which particular branches of dental surgery he has specialised for a number of years. Dr. Kets lives in the centre of the European quarter of the town.

Dr. W. C. E. Koch, D.D.S., was born in Utrecht, Holland, in 1879. At an early age he went to America, and was educated there, taking degrees as a dental surgeon at the New York College of Dentistry in 1890, and at the University of Pennsylvania in 1900. In 1908 Dr. Koch purchased the practice of Dr. Gorodiski in Sourabaya. During the past year he has succeeded in largely extending his *clientèle*. His methods are thoroughly up-to-date and the general results of his work are excellent. All his instruments and materials are imported from America via Europe. Quite recently Dr. Koch has installed his own dynamo for supplying the electric power used throughout his house and surgery, and for baking porcelain fillings, &c., in the laboratory.

COMMERCIAL: EUROPEAN.

INTERNATIONALE CREDIET AND HANDELS- VEREENIGING "ROTTERDAM."

IN piece-goods alone, the sales of this Company amount to over nine million guilders per annum. This, however, is by no means the only branch of trade in which they are concerned. They are general importers and exporters on a large scale and deal in practically every variety of produce from Netherlands India. They have charge of the administration of four sugar estates—Badas, Gayam, Panggong Redjo and Modjo Pongong—all of which are situated in the Sourabaya district, and are the proprietors of a coffee estate near Djember, named Gereng Redjo.

The Company were established in 1864. Their headquarters are at Rotterdam, and they have branches at Sourabaya, Batavia, Semarang and Cheribon, their capital amounting to seven and a half million guilders. They are agents in Java for the Rotterdamsche Lloyd Steamship Company, one of the principal Dutch Mail lines, and are the representatives for the machine fabriek of Gebrs. Stork & Co., Hengelo, and for several Fire Insurance companies.

The local manager is Mr. R. A. Borel, who has been associated with the Company for the past twenty years.

HANDELSVEREENIGING VOORHEEN REISS & CO.

THIS old-established and well-known house, formerly a private firm carrying on business as Reiss & Co., was converted into a Limited

Liability Company with its present title in 1903. It has a capital of G. 1,500,000, of which G. 1,000,000 have been paid up. The head offices of the Company are at Amsterdam, where Mr. G. A. Kesting, the general manager, is in charge. Mr. H. Pileiderer is the procurator-holder. At the Company's branch in Sourabaya, Mr. C. J. Textor is the agent, and Mr. H. Voorhoeve the procurator-holder; Mr. J. T. Peters is the procurator-holder for the Company at Batavia, while Mr. F. Rubach carries out the duties of the Company's agent at Macassar.

In addition to their general import and export business, the Company are the agents for several important Insurance Companies. At Macassar, they represent the Chartered Bank of India, Australia, and China, and the Rotterdam Lloyd Steamship Company.

The Directors of the Handelsvereniging are Mr. H. C. Soeters (chairman), Mr. D. T. Ruys, Mr. L. H. Reiss, and P. F. Marquis de Jaucourt.

FRASER, EATON & CO.

THE firm of Fraser, Eaton & Co. have been established in Sourabaya for more than eighty years. They are largely interested in the export of sugar, tobacco, kapok, coffee, hides, and other produce of East Java, and are the agents of the Mercantile Bank of India, Ltd.; the Ocean Steamship Company, Ltd.; N.S.M. "Oceaan"; Asiatic Steam Navigation Company, Ltd.; the Currie Line; Indo-China Steam Navigation Company, Ltd.; China Steam Navigation Company, Ltd.; Singapore-West Australian Joint Service; Union Steamship Company of New Zealand, Ltd.; the Peninsular and Oriental Steam Navigation Company, and the Canadian Pacific Railway Company.

They also represent the following Insurance Companies:—Commercial Union Assurance Company, Ltd.; Alliance Assurance Company; Law Union and Crown Insurance Company; London and Lancashire Fire Insurance Company; North British and Mercantile Insurance Company; Northern Assurance Company; Norwich Union Fire Insurance Society; Royal Insurance Company; Guardian Assurance Company; Netherlands India Zee and Brand Assurantie Maatschappij; Nederlandsche Lloyd; Brand Assurantie Maatschappij "Insulinde"; China Traders Insurance Company, Ltd.; Canton Insurance Office, Ltd.; Triton Insurance Company, Ltd.; The Yangtze Insurance Association; South British Fire and Marine Assurance Company of New Zealand; New Zealand Insurance Company; the Tokio Marine Insurance Company, Ltd.; Thames and Mersey Marine Insurance Company, Ltd.; Maatschappij van Assurance Discontg and Beleening der stad Rotterdam; Aachen Leipziger Versicherungs Actien Gesellschaft; Rheinisch Westfälischer Lloyd; and the Agrippina Versicherungs Gesellschaft.

The British Vice-Consulate at Sourabaya is in their office, the present Vice-Consul being Mr. A. C. Ballingal.

CHINA AND JAVA EXPORT COMPANY.

No amount of produce—coffee, rice, cocoa, tapioca, kapok, cotton, oil-seeds, copra, peanuts: whatever it may be is too great for this well-known firm to handle. Often they purchase whole crops at a time. They are largely interested, too, in skins and hides, which they export to all parts of the world in immense quantities. As their name implies, the bulk of their trade lies in Java and China, and in all parts of the island, and in many of the more important commercial

centres of the Chinese Empire their representatives are to be found. Their headquarters, however, are at New York where the President of the Company, Mr. H. Houston Hiers superintends the general conduct of the business, and they have a branch also at Amsterdam.

The General Manager for the Company in Netherlands India is Mr. William Fox, the head office for Java being in Semarang. There are branches in Batavia, Cheribon, Tegal, and several depots in the interior of the Island. The Sourabaya office was opened in 1902 and is under the direction of Mr. E. W. Edgar, who has had a large experience in dealing with local produce.

COSTER VAN VOORHOUT & CO.

THE firm of Coster van Voorhout & Co. were established in Sourabaya some fifteen years ago, the partners in the enterprise being Messrs. V. C. Coster van Voorhout, H. L. Vinke, and H. B. Hulswit. Their business lies chiefly in superintending the administration of a number of large estates; they also do general agency work and are the representatives of several important insurance companies.

They are the directors of the N. V. Suikfabriek Tjoekir; the Cultuur Maatschappij Badek; the Cultuur Maatschappij Tjorah Mas, and the Cultuur Maatschappij Poetrie. The estate of the Cultuur Maatschappij Badek is situated on the volcano Kloet, in the Residency of Kediri. It produces principally coffee, cocoa, rubber, kapok and citronella oil. The estates of the Cultuur Maatschappij Tjorah Mas and the Cultuur Maatschappij Poetrie are both situated on the Yang mountains, in the residency of Besoeki. The former produces coffee and rubber, the latter coffee only. The Company are also the representatives of the Cultuur Maatschappij Watoetoeis, Poppoh—a company which has its headquarters in The Hague and owns the sugar mills Watoetoeis and Poppoh. They are the directors of the India office of the Life Insurance Company, Nationale Levensverzekering Bank, Rotterdam, and of the Mining Company, "Mynbouw Maatschappij Martapoera." Their agencies include the Accident Insurance Company, "De Nieuwe Eerste Nederlandsche, The Hague"; the Upper Rhine Insurance Company (Marine Insurance) Mannheim; and the Nederlandsch-Indische Crediet & Bankvereniging (Amsterdam).

MAINTZ & CO.

ESTABLISHED in 1804 as exporters, importers, and agents, the firm of Maintz & Co. have now secured for themselves a recognised place among the leading commercial houses of Sourabaya. They export skins, hides, coffee, tobacco, kapok, arachides, castor and kapok seed, teak wood, copra, maize, tapioca, &c., and import rice from Rangoon and Saigon, gambier from Sumatra, and both cut and uncut diamonds.

They act as agents for the following firms:—German Australian Steamship Company, Hamburg; the Austrian Lloyds Steamship Company, Trieste; the Allgemeine Electricitaets Gesellschaft, Berlin; Schuchart & Schuette, Berlin, for tools and tool machinery; Mix & Genest, Berlin, for telephone apparatus; De Zuid Java Cultuur Maatschappij (coffee, pepper, and kapok estate, "Bantoor," in Malang, of Utrecht; De Cultuur Maatschappij "Nieuw Dilem," of Rotterdam (proprietors of coffee estate, "Dilem," in Toeloeng-Agöengi; the Goen-

oeng Melajoe Gambir estate, in Arahau (Sumatra); De Maatschappij tot Myn-Bosch; and the Landbouw Exploitatie in Langkat. Maintz & Co. handle all the petroleum sent to East Java by the last-named firm.

A special showroom and offices have been opened in the Societeit Street, Sourabaya, for displaying the manufactures of the Allgemeine Electricitaets Gesellschaft, Messrs. Schuchart & Schuette, and Messrs. Mix & Genest. The whole of the technical part of this department is in the hands of fully qualified and trained engineers.

The local manager is Mr. K. E. Schnurrenberger, who arrived from Zürich (Switzerland) in 1880. He has been in the service of Maintz & Co. in Batavia and Sourabaya since that time.

NAAMLooZE VENNOOTSCHAP KOoy & CO.

THIS firm was established in 1908 with its head office at Sourabaya and chief agency at Damrak, 20 22, Amsterdam. Its capital is G. 500,000, of which the sum of G. 150,000 has been paid up. The firm controls fourteen sugar mills and eleven coffee estates, besides several industrial enterprises.

WOLF & PETSCHKE.

AUSTRIAN manufactured goods bulk most largely among the imports of Messrs. Wolf & Petschek, although, of course, as general importers and exporters their trade is by no means confined to this one channel. They meet all demands of the local markets, and export every kind of Javanese produce. The firm occupy an exceptionally fine and lofty building, containing large and well-planned show-rooms, where a great variety of goods are displayed. Among their various agencies is that of the Helvetia Marine Insurance Company.

The partners in the enterprise are Messrs. B. Wolf and R. Petschek. The branch of the business in Vienna is under the charge of Mr. Petschek, while the Sourabaya branch, which was opened three years ago, is managed by Mr. Wolf, assisted by Mr. L. Praskovic, the firm's procurator holder. Mr. Wolf, an Austrian by birth, has resided in Java for the past twenty-six years. In addition to his ordinary business responsibilities, he has for the last seven years carried out the duties of Consul in Sourabaya for Austria-Hungary.

ANEMAET & CO.

THIS firm have been established in Sourabaya for just over half a century. They have a branch in Batavia, under the name of Reynst and Vinju, which is in the charge of Mr. H. s'Jacob—Mr. s'Jacob, and Messrs. L. H. C. Coster van Vrijenhooven, and J. M. Stok, who are in charge of affairs at headquarters, all being partners in the enterprise. The firm are general financial and commission agents, and are largely interested in many sugar, coffee, cocoa, rubber, and tobacco estates. Among the estates which are financed by them are:—

Sugar: Winongan, Sockowidi, Kabat, Olean, Phaiton de Maas, Kandangdjati, and Padjarakan.

Coffee: Limburg, Bogor Prada, Geneng, Kali-Glidik, Kawisari, Alas Kedawoeng, Rayap, Kali Koenig, Kali Sepandiang, Swatoc.

Tobacco: David Birnie, Djember.

The firm are also agents for A. van Hoboken & Co., Rotterdam (gins), de Bossu & Co., Mons, Belgium (sugar machinery), and Quien & Co., Bordeaux (wines).



BUSINESS MEN OF SOURABAYA.

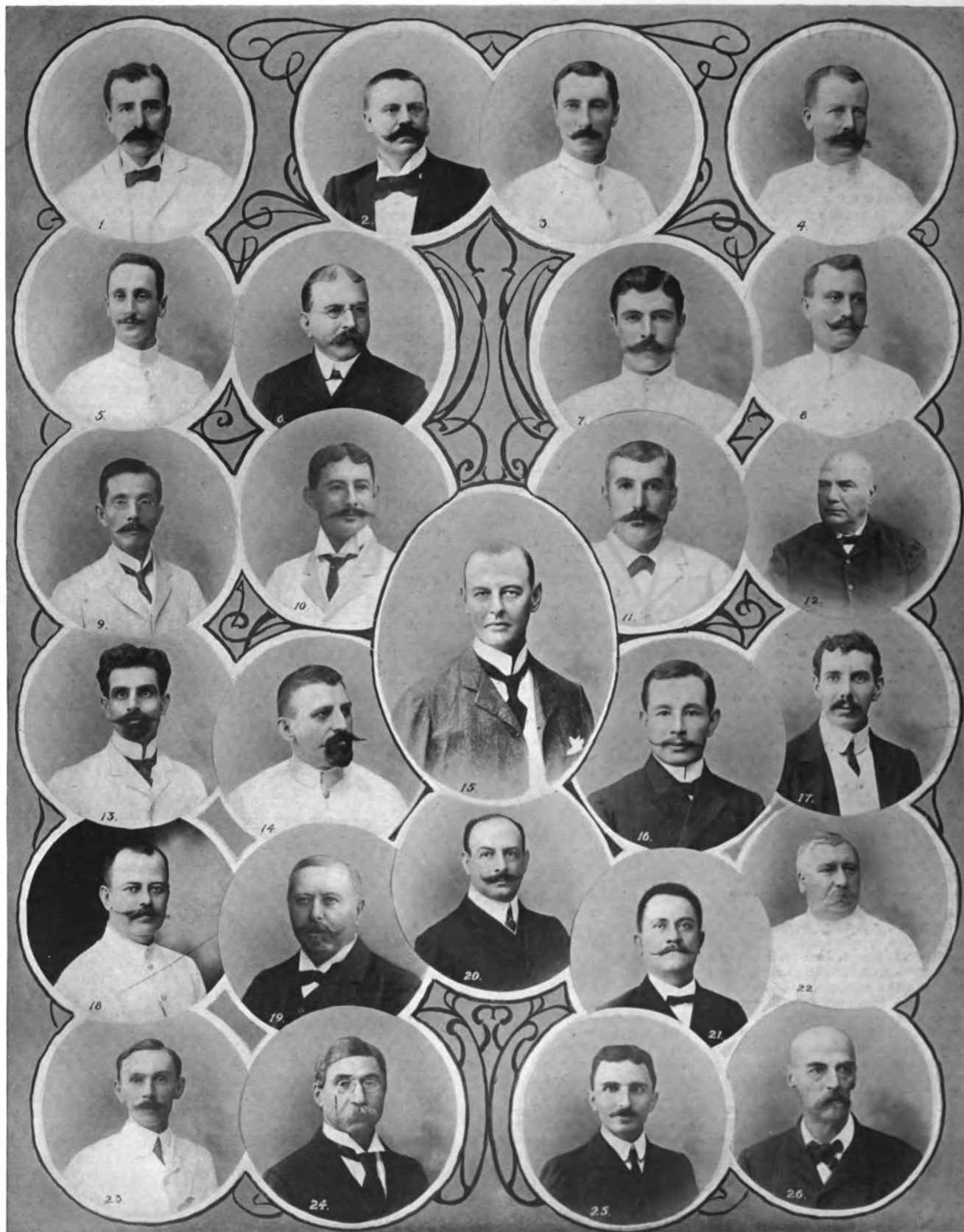
1. J. J. SNEDICK HURGRONIE.
2. G. RADEMACHER (German
Consul).
3. J. E. LIESE.
4. C. JOAKIM.

5. E. BLAVET.
6. R. A. BOREL.
7. B. WOLF.
8. H. L. VINKE.
9. TH. H. VAN VLIET.

10. JOHN CAMPBELL.
11. J. AMESZ.
12. D. E. CAMERON-ROSE.
13. A. W. ASPIN.
14. B. N. POWELL.

15. W. AMESZ.
16. E. J. F. TACK.
17. J. W. RUYS.
18. H. J. AMESZ.
19. J. J. P. KOHL.

20. K. A. VOLZ.
21. J. F. CHARLOUIS.
22. A. M. ZORAB.
23. H. B. HULSWIT.



BUSINESS MEN OF SOURABAYA.

1. P. N. GALSTAUN.
2. A. J. HUBER.
3. DR. D. A. KETS (Dental Surgeon).
4. CH. W. MATZEN.
5. J. VAN BUREN LENSINCK.
6. M. N. GALSTAUN.

7. DR. W. C. E. KOCH (Dental Surgeon).
8. E. SPIER.
9. S. TARANO.
10. C. M. VAN ZYLL DE JONG.
11. J. LAZAR.
12. F. C. J. HUGHAN.

13. E. W. EDGAR.
14. A. ROZENKRANZ.
15. C. A. GAIRDNER.
16. K. INAGAKI.
17. J. S. ARATHOON.
18. O. C. MATZEN.
19. A. H. PROTTEL.

20. TH. G. A. STIBBE.
21. F. D'ARNAUD VAN BOECKHOLTZ.
22. W. HENDERSON.
23. W. H. MEYER.
24. C. EDGAR.
25. MICHAEL GALSTAUN.
26. E. SCHELTEMA.

VAN DER LINDE AND TEVES.

OF the many great Dutch firms which have had their birth in Netherlands India, few, if any, are more important or have been more generally successful than that of Van der Linde and Teves, or "Lindeteves," as they are more commonly called, of Sourabaya, Semarang, and Amsterdam. They have been carrying on business for some thirty years, and, under an excellent and enterprising management, have worked themselves into an unusually strong and sound position. They are general merchants, and importers of iron goods, machinery, paints, electrical goods, copper and brass goods and fittings—in a word, all and every article that may be required by the sugar or other factories of Java. The Company have a capital of one and a half million guilders. Their buying house is in Amsterdam, where Mr. P. Verschuijl, the firm's head director, is in charge. Mr. A. A. Wittich is head manager for Netherlands India, while Mr. A. J. A. Meerum Terwogt is the manager of the Sourabaya business.

The firm's comprehensive catalogue and supplement, in which every type of goods sold is numbered and priced, contain something like five hundred pages, so that it would be impossible to give anything approaching a complete list of the articles in this volume. Some idea of the firm's importance, however, may perhaps be obtained by a reference to their various departments. Their branch at Sourabaya is organised on much the same plan as their equally large establishment in Semarang, and a description of the one may be also well applied to the other. In Sourabaya their premises occupy a site of several acres in the heart of the city, almost adjoining the principal station of the State Railways. These are divided and sub-divided into departments, which are arranged in the most systematic and simple manner for displaying the goods to the best advantage. The motto of the establishment is, "A place for everything, and everything in its place"; and the maxim is carried out to the very letter. By a special and unique system of book-keeping, the manager can tell from day to day, and at a moment's notice, just how many thousands of tins of paint, millions of nuts and bolts, or miles of piping they have in stock. There is a department devoted solely to the import business, and a special despatch department, comprising a whole building crammed from floor to ceiling with iron and copper fittings, sheet copper, &c. The next department contains miles of belting of every size and make, while in another room are dozens of stands, carrying thousands or hundreds of thousands of fittings of peculiar sizes and shapes, and immense quantities of nuts and bolts. Rubber in sheets of all sizes and thickness is kept close by in cool storage that ensures its good condition, while in a yard opening off the iron department may be seen hundreds of tons of heavy iron girders, and heavy iron of all sizes, arranged in orderly stacks. There is a department devoted to the goods of the Paraffin Paint Company and to the Malthoid roofing, with which excellent material, by the way, several of the showrooms are covered, and as a consequence are beautifully cool and light. One small detail, however, may perhaps furnish a more striking illustration of the vastness of the stock than a whole catalogue. In one storeroom is piled up over G. 10,000 worth of "Ripolin" paint. The sales are enormous, and hundreds of thousands of tins are continually pouring in

and out of the establishment. The Semarang stock is worth a similar sum, so that the firm have never less than G. 20,000 invested in paint of this brand alone. Eight months ago the firm took up the agency for the "Brons" Dutch oil motors for factory use—the only ones that are in the same class as the Diesel oil engines, for economy and efficiency—and it says much for the energy with which they conduct their business that the sales have been so great that the home factory will be unable to carry out the orders they have placed with them for more than a year to come. In the firm's own workshop they are still using an old and less economical motor, simply because on each of the four occasions when they have imported a new one for their own use it has been seen by a customer whose order could not at the moment be filled, and has had to be made over to him. The blacksmith's shop is equipped with machines for all kinds of light work—for the construction of steel buildings, iron and steel frames, roofs, &c. A splendid godown, 45 metres by 35, is stocked with all sorts of smaller machinery, while in another showroom 160 feet long are drills and pumps of every size. The electrical department is on the second floor of the building, and, like all the others, is stocked in a most comprehensive fashion. The firm employ electricians, chemists, engineers and other experts, and have four travellers continually visiting the sugar, tea, and other estates in the interior. Their office staff at Sourabaya consists of about twenty Europeans, and they employ about the same number at Semarang.

The firm's catalogue, which is revised continually, costs from G. 15,000 to G. 16,000 each issue. Moreover, a library of about eight thousand catalogues and price lists of different leading manufacturers of Europe and America is maintained. These are well registered, so that goods may be placed on order by wire without the least trouble, and as the firm's own house in Amsterdam superintends all the buying in Europe, the prompt execution of all commissions may be guaranteed. Each month the firm publish a trade paper called the *Sprokkelingen*, which gives interesting and useful information regarding technical subjects, and has a circulation which probably equals that of any paper in Netherlands India. It is to such enterprise as this—characteristic of all their dealings—in combination with splendid organisation and good management, that the firm owe the remarkable success they have attained. And their prospects for the future are as bright as their past record has been. Their business is still increasing, and at Semarang a new office is about to be built at a cost of G. 120,000 in order that it may be regulated and conducted more effectively.

Amongst the firm's numerous agencies the following, which are perhaps the most important, may be mentioned:—Ruston, Proctor & Co., Ltd., Lincoln, England; the Link-Belt Machinery Company, Chicago, U.S.A.; Appingedammer Brons Motoren fabriek, Appingendam; Rife Hydraulic Engine Manufacturing Company, New York, U.S.A.; Rumsey & Co., Ltd., Seneca-Falls, New York, U.S.A.; J. Harrison Carter, Dunstable, England; B. F. Avery & Sons, Louisville, Ky., U.S.A.; Fontaine & Co., Aken; A. T. Morse, Sons & Co., London; S. B. N. Verf; S. B. N. Ploegen; Vereenigde Gummiwaaren-Fabriken, "Harburg-Wien," Harburg a/d Elbe; F. E. Baum, Chemnitz i/s; the Magnolia Anti-Friction Metal Company, Ltd., of Great Britain; Société Anonyme des Usines Levie Frères, Cronfestu; Utrechtsche Machine

fabriek Frans Smulders, Utrecht; and the Badische Anilin & Soda fabriek, Ludwigs-hafen.

HERM. ROSENTHAL.

A REFERENCE to the firm of Herm. Rosenthal will be found in the section of this volume dealing with Batavia. The Sourabaya branch, which carries on an important general import and export trade, dealing largely in sugar, coffee, kapok, &c., is in the charge of Mr. E. C. A. Spier.

MAATSCHAPPIJ t.v.d.z. RUHAAK & CO.

THIS business was established some twenty-five years ago by Mr. E. W. van Someren Grève, and formed by him into a limited liability company in 1898, with a capital of G. 500,000.

Under entirely separate administration, two distinct branches are carried on; on the one hand the Company are dealers in machinery, tools, paints, belting, and general hardware; on the other they devote their attention to shipchandlery and stevedore work. The former branch is under the management of Mr. A. J. F. Tack, who during his forty years' residence in Java has had a very large experience in sugar milling, and is consequently well able to cater for all the requirements of that industry. He also has charge of an extensive electrical business which is associated with his branch of the enterprise. The shops for fitting and repairing work in this department are well equipped and the centre of very considerable activity. The ship chandlery and stevedore branch, which is under the control of Mr. H. van Someren Grève, has many very large contracts with various shipping firms.

The Company are agents for Messrs. Marshall, Sons & Co., Gainsborough, for engines, &c.; Vettewinkel, Amsterdam, for paints, oils, &c.; and also for the "Klingerit" steam packing and gauge glasses. They are continually sending representatives through different parts of the island, so that they keep well in touch with local needs. Their headquarters are in Haarlem, Holland, where all the buying is done for the Netherlands India trade.

GEO. WEHRY & CO.

MR. J. E. LIESE, the manager of the branch business of Geo. Wehry & Co., in Sourabaya, arrived in Java some fifteen years ago. Previously, he had been engaged with commercial houses in Germany and Holland, and had been for a year in England. Mr. Liese is a keen sportsman, his favourite pastime being shooting. He is very popular with all classes of the community.

BEHN MEYER & CO., LTD.

BEHN MEYER & CO., LTD., opened their branch in Sourabaya in 1908, when they took over the established business of the Handels Gesellschaft Helterich and Rademacher. The firm now trade as general merchants, importers, and exporters. They are large buyers of all kinds of local produce for export to Europe and handle very considerable quantities of sugar. They are general agents for the Norddeutscher Lloyd and agents for the Kali Syndicate of Germany, the Deutsche Asiatische Bank, and many shipping and insurance companies.

The chief of the firm in Sourabaya is Mr. G. Rademacher, who for many years has been associated with Eastern trade. Now, in addition to his business responsibilities, he carries out the duties of German Consul in the port.

SMIDT & AMESZ.

FOR many years past the firm of Messrs. Smidt & Amesz have been interested in the export trade of Java, but it was only four years ago that their branch office in Sourabaya was established. The partners in the business are Messrs. H. J. and W. Amesz. Their headquarters are at Amsterdam, where Mr. H. J. Amesz has charge of affairs. Mr. W. Amesz resides at Malang, and superintends the work on certain plantations in which the firm are interested. A younger brother, Mr. J. Amesz, who, before commencing his commercial career, completed ten years military service in Netherlands India, as an officer of cavalry, is responsible for the management of the Sourabaya office.

The firm are particularly interested in tobacco, and have their own plantations at Kediri, Probolinggo, Loomadjang, and Bondowoso. They also export very large quantities of copra, kapok, maize, groundnuts, &c.

BORNEO COMPANY, LTD.

It is a somewhat curious fact, considering the great interests they have in Netherlands India, that the Borneo Company, Ltd., were, a few years ago, practically unrepresented in Sourabaya. Their branch here has been opened only since 1906. During these past two or three years, however, their progress has been considerable. Their interests are centred chiefly in the teak trade. Their policy is a distinctly progressive one, and they are always introducing new machinery to keep their works fully up to date. They have large and well-stocked timber yards fronting the river, and possess large forests, from which the timber for their saw-mills is chiefly obtained. Their saw-milling machinery is of the most modern type, and is driven by a 100-h.p. steam engine. All the connections are laid underground.

The manager for the Company in Sourabaya is Mr. J. C. Ferrier.

SCHIFF & CO.

SCHIFF & Co., in Sourabaya, are largely interested in coffee and rubber, and are the financial agents for several estates devoted to the cultivation of these products. In addition they represent the Netherlands Lloyd East India Sea and Fire Insurance Company, the Batavia Sea and Fire Insurance Company, the Java Sea and Fire Insurance Company, the Fire Insurance Company, Ardjoeno, and the Fire Insurance Company, Veritas, all of which companies have their head offices at Batavia, under the management of Mr. L. M. J. van Sluyters, and are represented in Amsterdam by Mr. J. ter Meulen, jun.

The firm were established by Messrs. J. W. Schiff and J. J. Snouck Hurgrouje some fifteen years ago. Mr. Snouck Hurgrouje, however, is now the sole proprietor of the business. A Hollander by birth, he has resided in Java for the past twenty years, and has been, and still is, prominently associated with many large industrial enterprises in the country.

ZORAB MESROPE & CO.

CONSIDERABLE quantities of sugar are exported, and rice, butter, gunny bags, and wheat flour imported by Zorab Mesrope & Co., a firm which have been in existence in Sourabaya since 1883. They are general agents of the N. V. Marmerkalk-branderij "Wadijak" (1895), and for the very important and flourishing estates and factories of the Galoehan Tapioca Estates and Mills, Ltd.

The firm have had a branch in Singaradja, Bali, since they began trading in Netherlands India, and from here coffee and copra are exported; coffee, rice, and kapok are exported from their branch at Ampenam, Lombok, which was established in 1896, while at both places an extensive trade in piece-goods is carried on.

The business was established by Messrs. M. M. Zorab and J. A. Mesrope in 1883. Mr. M. M. Zorab died in May, 1906, at the age of seventy-five years, and Mr. Mesrope, although he retains an interest in the firm, has given up active participation in its management. The managing partners now are Messrs. A. M. Zorab and N. P. Hacobian.

NAAMLooZE VENNOOTSCHAP V/H OIESBERS & ROSENKRANZ.

THIS firm were established in 1901, and converted into a limited liability company with a capital of G. 50,000 six years later. They undertake the supply of all machinery, and its accessories, required in the manufacture of sugar, or for oil mills, rice mills, tapioca factories, and kapok and tobacco presses. Iron roofs and girders are also supplied by them, their stocks being principally drawn from Germany, England, and America. Something like one hundred men obtain employment in their large and up-to-date workshop and foundry for cast-iron and brass work.

The directors of the Company are Messrs. Schimmel and Oetz, lawyers and commissioners; Mr. A. Rosenkranz is the chief engineer.

JOAKIM & CO.

ESTABLISHED in 1807, this firm carry on a large business in Sourabaya as general merchants. They are principally concerned with importing for the local markets and always have an extensive and well-assorted stock of goods on hand, but while this forms their most important department of trade they deal also in many of the products of the Dutch Indies, and are the owners of a distillery at Kraksaan. The business is conducted under the personal direction of Mr. Joakim, who has been resident in Java for nearly twenty-five years.

Messrs. Joakim & Co. are agents for Michael Stephens & Co., Macassar, Bali, and Lombok, and for Stephen Paul & Co., of Singapore.

MITSUMI BUSSAN KAISHA.

THE history of the house of Mitsui is an interesting record of commercial prosperity following upon the unity of the various branches of one large family. The Mitsui Bussan Kaisha is the department of the house which devotes itself to general trading. A branch of this department was opened in Sourabaya in 1898 by Mr. T. Hayashi, and during the last ten years its business has been steadily growing. Cotton piece-goods, matches, coal, sulphur, and general manufactured articles are imported from Japan, large quantities of flour from America and Australia and cotton goods from England. The firm's exports, consisting principally of sugar, although other produce is dealt in, go chiefly to Japan, Bombay, and Shanghai.

Mr. Takano, the present manager for the firm in Sourabaya, has spent some years in Java, and has made it his aim to become conversant with all branches of the local trade. He has the advantage also of being in touch with the principal markets in the East, and under his supervision the interests of the house of Mitsui in Netherlands India are likely to extend very rapidly.

GALSTAUN & CO.

ESTABLISHED in Sourabaya but five years ago, the rapid development and success of Galstaun & Co. have been very marked. At the present time as general merchants and importers they conduct a large and steadily increasing trade throughout Java.

Mr. M. N. Galstaun, who personally controls the business, has been resident in Java for the past seventeen years. Formerly he was for eighteen years engaged in business in Singapore. His nephew, Mr. Michael Galstaun, who is a partner in the firm, has been six years in Java. Both partners are well known and enjoy a high reputation in commercial circles in Sourabaya.

BEAUCLERK & CO.

THE firm of Beauclerk & Co., as at present constituted, was established in 1905, but it is actually the offspring of a business started four years previously by the late Mr. F. W. Beauclerk. As general brokers the firm handle large quantities of sugar and foreign rice in addition to other local products.

The present partners are Messrs. W. H. Meyer, C. A. Gairdner, and G. J. Meyer. Mr. Gairdner is an Irishman by birth, but has spent some nineteen years in Java. Messrs. W. H. Meyer and G. J. Meyer are both Hollanders, born in Java.

A. J. HUBER.

MR. A. J. HUBER is an old resident of Netherlands India, who, for the last fifteen years has been prominently engaged in the trade of the archipelago. Some years ago he established himself as a share and general broker. Stocks and shares may be considered as his speciality, but he nevertheless deals largely in sugar, coffee and other Java products for which Sourabaya is the great mart.

CHAS. MATZEN & CO.

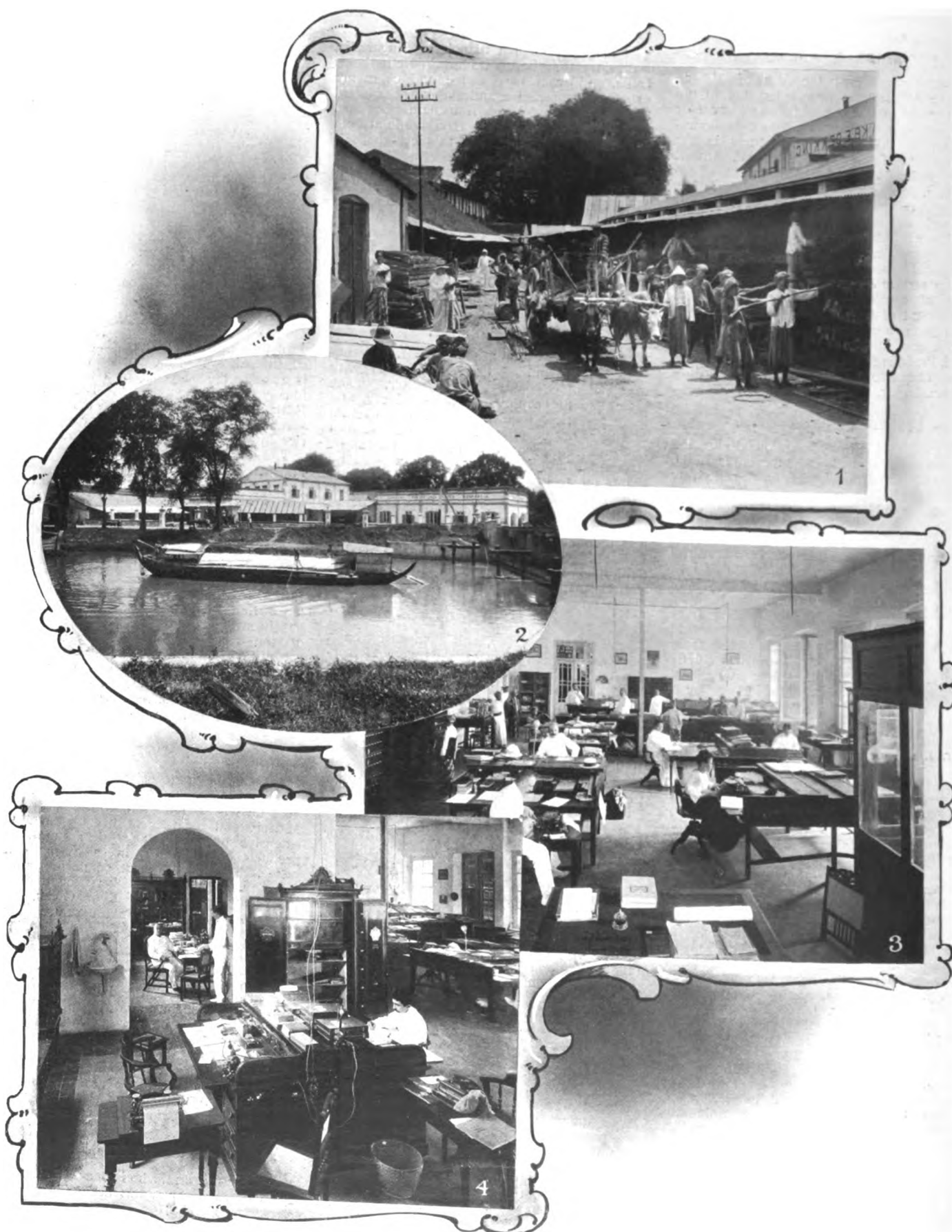
MR. CHAS. MATZEN established this firm of general brokers in Sourabaya in 1895. Last year he was joined by his brother, Mr. O. C. Matzen, and together they carry on a very extensive business. They deal in all Java products but especially in sugar, maize and coffee. They have a large connection among the Chinese, and are brokers for the great sugar buying house of Kian Gwan. The offices of the firm are in the centre of the city, near the red bridge.

ALFRED BERG & CO.

THE firm of Messrs. Alfred Berg & Co. have been carrying on business as general brokers since 1903. The enterprise was started by Mr. Alfred Berg, but he has since been joined by Messrs. James Allen Miller and W. Birnie. Mr. Berg now confines the whole of his attention to the firm's dealings in sugar, while his two partners supervise the general business. The Company have a branch office at Semarang.

E. SCHELTEMA.

MR. E. SCHELTEMA, who is one of Sourabaya's best known brokers, has been a resident in Netherlands India for some thirty-five years. His firm was established in Sourabaya in 1896, and has since become a factor of considerable importance in both sugar and coffee markets. Mr. Scheltema buys for several leading houses, including the well-known firm of Erdmann & Siedken.

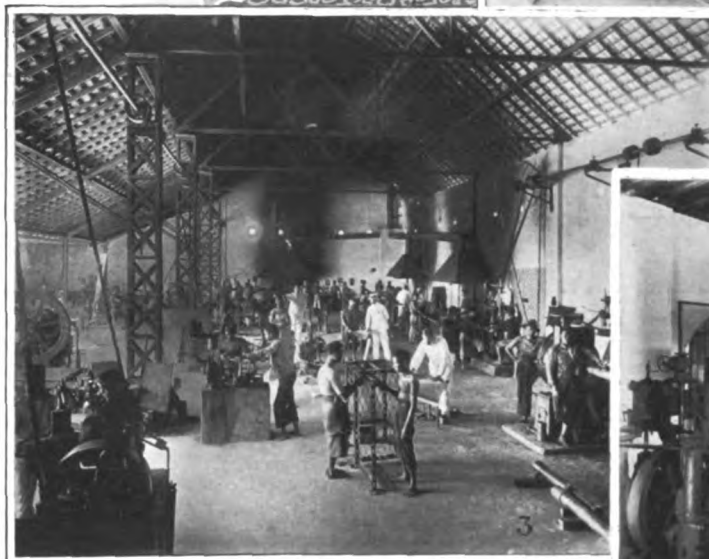


1. BACK STORES AND YARD.

MESSRS. VAN DER LINDE AND TEVES.
2. VIEW OF PREMISES FROM THE RIVER.

3. GENERAL OFFICE.

DIRECTORS' OFFICES.



MESSRS. VAN DER LINDE AND TEVES.

1. THE GODOWN.

2. A SHOWROOM.

3. WORKSHOP AND SMITHY.

4. ANOTHER SHOWROOM.

ALGEMEENE MAATSCHAPPIJ VAN LEVENSVZERKERING EN LYFRENTÉ.

A branch office of this Life Insurance Company was opened in Sourabaya in 1882, just two years after the Company had been established in Amsterdam. Now it is the centre of the Company's business in the East, and whereas, formerly, the manager had one assistant only, there are now no less than twenty Europeans employed. Moreover, special agents have been appointed at Batavia and Semarang, and 250 agents and seven inspectors are continually travelling through the country in the Company's interests. The offices in Sourabaya are the Company's own property, and form one of the finest buildings in the town. They have been constructed to suit the climate, and are well ventilated and cool.

The Algemeene Maatschappij van Levensverzekering en Lyfrente is one of the largest of Dutch Life Insurance Companies. Its consistent growth year by year shows the marked favour and popularity in which it is held. The total capital insured now exceeds G. 170,000,000, and in addition to Sourabaya, branches have been opened in Brussels, Vienna, Budapest, Luxemburg, and in South Africa. The head offices in Amsterdam are situated opposite the Exchange.

The first manager for the Company in Sourabaya was Mr. J. Th. Andriesse. He retired in 1908, and was succeeded by Mr. P. Th. von Memert. His position is a very important one, as he is empowered to settle all business in the East without reference to headquarters.

K. INAGAKI.

THE business, which has been carried on in Sourabaya since 1905 under the style of K. Inagaki, is a branch of the well-known firm of Inagaki & Co., of Kioto, Japan. It was established by Mr. Inagaki, a managing partner of the Company, and under his personal supervision it is fast gaining a firm footing in East Java. Large stocks of general merchandise are imported from Japan, and raw cotton, copra, and other local produce is exported to Japan and other Eastern countries.

WELLENSTEIN, KRAUSE & CO.

THE principal interests of Wellenstein, Krause & Co. are centred in the buying and exporting of sugar. They export other produce also, including coffee, cotton, rice, and pepper - but in smaller quantities.

The firm is a branch of the Batavia house, and was opened some twenty-five years ago. It is under the able supervision and management of Mr. K. A. Volz, a naturalised British subject, who has been connected with the firm since his arrival in Java, seven years ago.

ASPIN & CO., LTD.

THE original, and probably the more familiar name of this firm of general importers and agents was Aspin, Miller & Co. They have been known under the style of Aspin & Co., Ltd., for a comparatively short period only. They import considerable quantities of goods from England, Australia, and other important countries, and are agents for several well-known shipping, insurance, and industrial companies, among which may be mentioned:—Messrs. Burns, Philp & Co., Ltd., Sydney; the British India Steam Navigation Company, Ltd.; the Pacific Mail Steamship Company, Ltd.; Occidental and Oriental Steamship Company, Ltd.; the Liverpool,

London, and Globe Insurance Company, Ltd.; Queensland Insurance Company, Ltd.; Adelaide Milling Company, Ltd.; the Great Western Vineyards, Melbourne; and the Java Rubber and Produce Company.

The managing director of the Company is Mr. A. W. Aspin, who has been resident in Java for seventeen years; and the directors are Messrs. J. R. Campbell and F. Hughan, of Sourabaya, and P. G. Black, of Messrs. Burns, Philp & Co., Ltd., Sydney. Messrs. F. R. Southern & Co., of Great St. Helen's, E.C., are the Company's London agents, and Messrs. Ashton & Co., 45, Chorlton Street, represent them in Manchester.

THE NIEUW PRAUWEN VEER.

ALL goods have to be shipped and unloaded in the Sourabaya harbour through the agency of lighters, and as a consequence the companies operating these small vessels are chiefly responsible for the manner in which the cargo is handled. The largest lighter company in the town, the Nieuw Prauwen Veer, which was established in 1884, and now has a capital of Fl. 700,000, has earned for itself an excellent name among all shippers for the consistently excellent way it carries out its work. In the height of the sugar season, when large consignments have to be despatched and away in an extra short time, smart and efficient management of the transport from the warehouses to the ships is essential. The work is carried on at a high pressure, but the Company has never yet failed in its undertakings. There is a branch of the business at Pasoeroean, which was originally a separate company, and has been in existence for over fifty years. Quite recently, also, the firm has absorbed two other lighter companies, and it is always steadily improving and adding to its large fleet. The latest additions are two iron lighters, propelled by steam motors, which have just been imported from England. Altogether the Company has a carrying capacity of considerably over 10,000 tons.

Mr. F. C. J. Hughan was the first manager of the enterprise, and the business is still carried on under his direct personal supervision. Born in Batavia, Mr. Hughan has, at one time and another, been connected with some of the largest commercial ventures in Java. His father came to Netherlands India, from Scotland, some seventy years ago.

GOMPEN & CO.

THE firm of Gompén & Co. are general importers and exporters. Their imports cover all classes of goods for the local market, including piece-goods, prints, earthenware and enamel-ware, and they export tobacco, kapok, pepper, and many other varieties of Java produce. As agents for Messrs. Hoogewerf, Chabot & Visser, the large wine merchants of Rotterdam, they keep a stock of wines which will compare with that of any firm in the country. Its value is never below Fl. 30,000. They are also sole importers of the first quality Cognac from the well-known house of Pellisson Père & Co.

The head office of the Company is in Amsterdam, where Mr. Gompén himself has charge of affairs. The Sourabaya branch was opened by its present manager, Mr. J. van Buren Lensinck, in 1905.

J. S. ARATHOON & CO.

THE proprietor and manager of the firm of J. S. Arathoon & Co. has been for some

considerable time actively engaged in trade in East Java, although his business has been known by its present name for little more than a year. Formerly others were associated with Mr. Arathoon in its management, and it was then conducted under a different style; he has continued the enterprise himself since the dissolving of the partnership.

The firm are importers of piece goods, prints, provisions, wine and spirits, lamps and glass ware, hardware, including enamelled goods and all kinds of general merchandise. They are in touch with the principal business houses in the country, and are ready to take up agencies for European companies. Mr. Arathoon has resided in Java for over twelve years and has a wide experience of the local trade.

EERSTE NED. IND. KOFFIEBRANDERIJ.

THIS factory, as its name indicates, is the oldest as it is also the largest, coffee grinding establishment in Java. Situated at Malang, it was founded in 1901 by its present director, Mr. L. Schol, and is now equipped with the latest type of machinery for grinding and preparing coffee on a large scale. The coffee is packed into tins and exported to Europe and other countries. Only the best qualities are handled, and as the Java coffee, generally, is recognised as being the finest in the world, little more need be said regarding the high standard of the factory's products. The firm's trade mark is well known as a guarantee of excellence. The factory gives employment constantly to upwards of two hundred men.

L. J. BRANDON & CO.

MESSRS. RICARDO and W. F. and L. J. BRANDON established the firm of Brandon & Co. in Sourabaya in 1864. Mr. Ricardo, however, has long since retired, and the enterprise is carried on at the present day by Messrs. J. F. and W. F. H. Brandon, the sons of the original partner, Mr. W. F. Brandon. Mr. J. F. Brandon resides in Holland, and has charge of the firm's interests in Europe. Mr. W. F. H. Brandon is the manager in Sourabaya.

The business of the firm has extended considerably during the last quarter of a century, but their trade is purely local. They are importers of general merchandise for the local markets, and as Mr. W. F. H. Brandon has been in Java for the past ten years he knows full well what the local requirements are. The firm have buying offices in Amsterdam and Manchester. Their agencies include those of the Palatine Fire Insurance Company, Ltd., London, and the Eidgenössische Transport Vers. Ges. Marine Insurance Company, of Zurich.

SARKIES, EDGAR & CO.

FOUNDED in 1864 by Messrs. G. Edgar and J. S. Sarkies, the firm of Sarkies, Edgar & Co. rank among the oldest of their kind in Sourabaya. They take an important share in the import and export trade of Netherlands India, importing large quantities of general merchandise and exporting sugar and other produce of Java.

The founders of the business are dead. The present proprietor is Mr. C. Edgar, who is a well-known figure in both commercial and social circles in Sourabaya.

CARL SCHLIEPER & CO.

A GENERAL reference to the activities of Carl Schlieper & Co. in Netherlands India is to be found in the Batavia section of this

volume. The Sourabaya branch was opened in 1892, and while at the outset the firm occupied premises of considerable size, extensions and new buildings are now in course of construction to meet the growing requirements of the trade. The local manager, Mr. O. Burghoff, came to Java eleven years ago, and during the whole of this time has been connected with the firm.

EAST JAVA LIGHTER COMPANY, LTD.

THIS lighter company was established by a syndicate of commercial men in 1875. Its fleet at the outset consisted of forty lighters, but the business progressed steadily, and in 1906 the Sourabaya Lighter Company was incorporated with the enterprise, and the combined fleets now number 145 boats and have a total carrying capacity of 8,000 tons. The Company, which has a capital of G. 400,000, undertakes the building of its own lighters and is constantly introducing improvements into the methods of construction.

The manager for the Company, Mr. A. de Bruyn, came from Holland to Java thirty-six years ago. He joined the East Java Lighter Company in 1894.

HANDEL MAATSCHAPPIJ "E. BLAVET & CO."

As importers of general merchandise, this firm were established by Mr. E. Blavet in 1894, and formed into a company with a capital of G. 200,000 in 1905. Their only offices are under the charge of Mr. E. Blavet and Mr. F. de Ryk in Sourabaya. The Company import all goods suitable for the local market, and have large and well-assorted stocks always on hand. Their wholesale trade, both in East Java and the eastern islands of the archipelago, is considerable. They hold agencies also for several marine and fire insurance companies.

Both managing directors of the Company have had nearly forty years' commercial experience, so that they are naturally well acquainted with most mercantile houses in the country. Mr. E. Blavet is general agent in the Dutch East Indies for the "Eerste Nederlandsche Verzekering Maatschappij op het Leven en tegen Invaliditeit"; a director of the "Bouw Maatschappij Kepoeteran," a land investment company of some considerable importance, and a director of the "Fabrique de Glace" Djambatan Bibis, one of the largest ice factories in Sourabaya. In addition, he also finds time to carry out the duties of Portuguese Consul and French Consular Agent for East Java.

NAAMLooZE VENNOOTSCHAP STROOHOEDEN-VEEM.

A LITERAL English translation of this company's name—the Straw-hat Dock Company, Limited—could hardly be said to convey much intelligence to the average reader. It neither suggests a reason for the establishment of the enterprise, nor offers a clue as to the particular nature of the business transacted under its auspices. But while it is neither a dock company nor a firm dealing exclusively in straw hats, it has proved its usefulness and value to the merchants of Sourabaya in many other ways. The Company undertakes to discharge the cargo of ships entering, or to load the goods for the ship leaving the port, and will either despatch to their destination or store in their godowns merchandise and private effects of every description. It makes itself responsible also for the proper carrying through of all the Custom House regulations in connection

with the import and export of goods, and proves an invaluable ally to the busy commercial houses generally.

The Company has a capital of Fl. 1,000,000, of which Fl. 216,000 is paid up. Its premises are centrally situated on the west side of the Kali-mas, and cover an area of over 15,000 square yards.

C. VAN VLIET & ZONEN.

ALL types of machines required by the large sugar factories in Java are stocked at the bureau of C. van Vliet & Zonen. This is their particular speciality. Their representatives are continually visiting the great sugar estates, and the sale of such machinery constitutes the greater part of the firm's trade. They are, however, also agents for the Fabrique Nationale d'armes de Guerre, Herstal, Liège, for the motor cycles and accessories manufactured by which company there is a considerable demand. They have excellently equipped workshops for motor car repairs, and possess a vulcanising plant for tyre work. They deal largely in Weston centrifugals, Worthington, Reineveld, and other pumps, being agents for Messrs. Watson, Laidlaw & Co., of Glasgow, and for Messrs. Reineveld, of Delft (Holland).

The business was founded in 1894 by Messrs. C. and Th. H. van Vliet. Now, Mr. Th. H. van Vliet is the sole proprietor of the enterprise.

N. V. FABRIEK VAN STOOM EN ANDERE WERKTUIGEN "KALIMAS."

THIS well-known engineering firm, with its head office in Sourabaya, was founded by Mr. John Campbell in 1875, and successfully conducted by him until 1896, when it passed into the hands of the present company, whose capital is G. 1,000,000. The board of directors is composed of Messrs. J. F. Charlois, J. W. D. Francken, J. J. Benjamin, and W. C. J. Kikkert. Mr. J. F. Charlois, the managing director, and a fully qualified engineer, under whose personal supervision the business is carried on, was born in Surinam (Dutch Guiana), and arrived in Java some nineteen years ago.

The Company's premises, which include spacious workshops, storerooms, and a foundry with a capacity of 10 tons, cover an extensive area, and are situated in a most convenient part of Sourabaya. Their workshops are thoroughly up-to-date and replete with everything necessary for carrying out all kinds of engineering work and repairs, but even at the present time still further extensions are being made to cope with an ever-increasing trade.

Immense stocks of general machinery are regularly imported from all parts of Europe, a large percentage coming from Messrs. C. F. Craig & Co., Ltd., Paisley. The firm make a speciality of all machinery required in sugar and rubber factories, and keep well abreast of the trade by bringing all the latest types of such machinery very quickly into the local market.

Mr. W. W. Campbell is the Company's agent at Faisley, Scotland.

O. DUNKERBECK & CO.

THE business now conducted under the style of Dunkerbeck & Co. was established some fifteen years ago. The originator of the enterprise, however, Mr. O. Dunkerbeck himself, remained in possession only for about five years. In 1898, it passed into the hands of Mr. J. Th. Gallois, and he, four years later, converted it into a com-

pany, the "Naamlooze Vennootschap Handel Maatschappij O. Dunkerbeck & Co." Mr. Dunkerbeck's activities were for the most part confined to building megass ovens for the sugar factories, but the scope of the business has now been very considerably extended, and the firm supply all kinds of machinery, boiling vats, and practically every requisite for the sugar industry. They also represent the following European and American firms:—Julius Blanche, of Merseburg and Brussels; Fetsu Denze, of Luik; A. Wernicke Maschinenbau-actien Gesellschaft, of Halle; Otto Gruson, of Magdeburg; Buckau; Petry Dereux, Duren Rheinland Dampfkessel fabrick; The Sun Vapor Street Lighting Company, of Canton, Ohio; and the Holsman Automobile Company, of Chicago.

Mr. J. Th. C. Gallois, when he turned the business into a company, retained the position of managing director and still owns a preponderating number of the shares.

THE NAAMLooZE VENNOOTSCHAP YSFABRIEK OLIE & CO.

MESSRS. L. H. OLIE & HUTZER, the latter an engineer by profession, were responsible for the establishment of this phenomenally successful undertaking. When the ice factory, known by the above title, was started by them in 1874, the machinery had a capacity for the manufacture of 5,000 lbs. of ice daily. Very soon, however, the capacity had to be doubled, and it has been extending gradually ever since. In 1896 the daily output reached 24,000 lbs., in 1899, 60,000 lbs., while during last year (1908) the average output each day was no less than 75,000 lbs. Under the capable management of Mr. A. A. Sweep, the concern bids fair to become one of the greatest ice factories in Java.

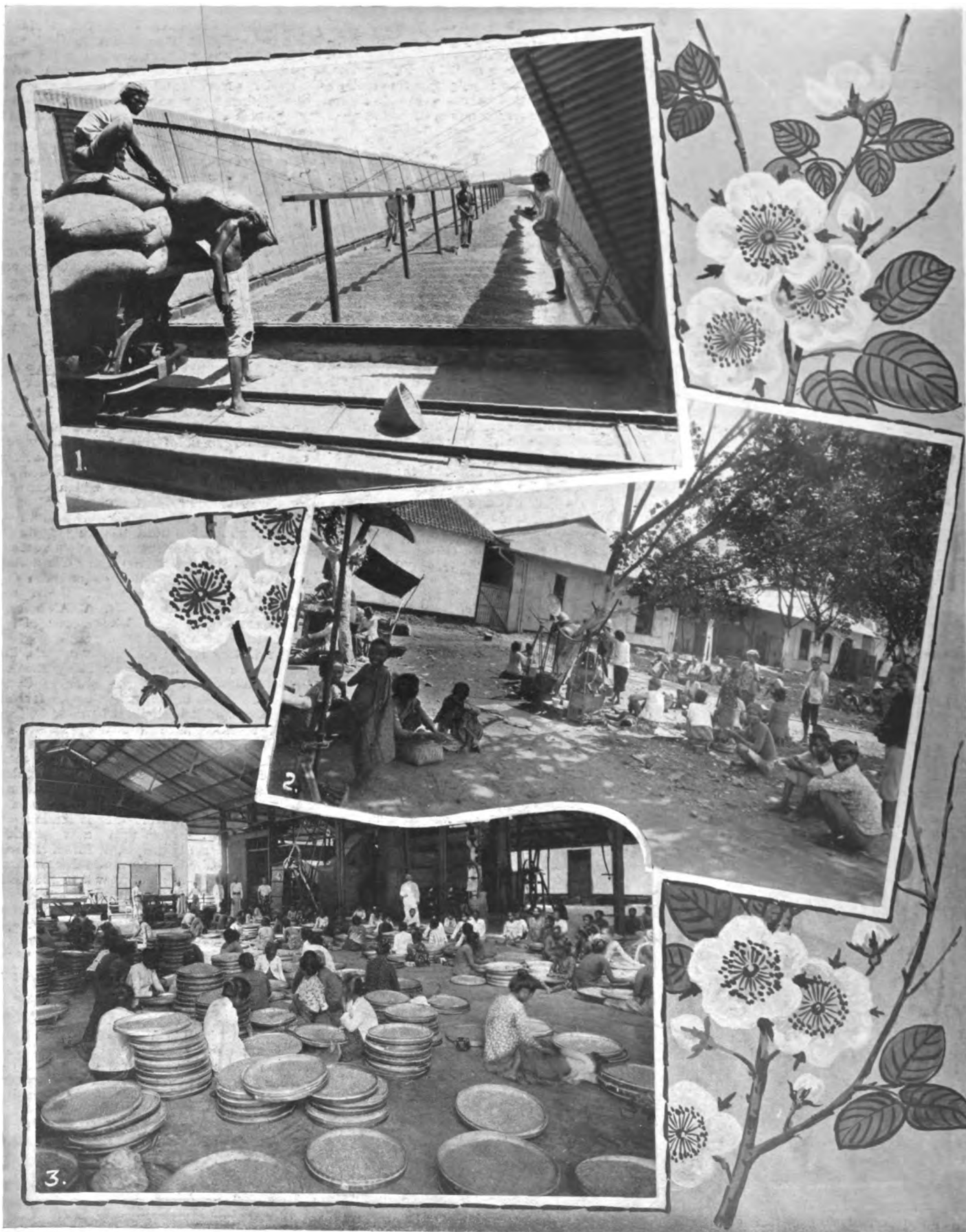
The factory is divided into two parts, the old and the new, the former being situated in Societeit Street, and the latter in Gemblongan. Steam is the motive power for the old factory and it is supplied by three boilers, which together have a heating surface of 500 square metres. The machinery in the new factory is driven by one of the latest type petrol motors. The premises are lighted throughout by electricity, and the emptying and filling of the ice cans is done automatically. All ice in both factories is made from distilled water. The firm now provide employment for 123 people, and as it is their intention to build another up-to-date factory in Probolinggo, this number will in the near future be considerably augmented.

Messrs. Olie & Company are also contemplating adding a Cold Storage Department to their other enterprises and with this end in view they are at the present time in negotiation with several Australian Export Firms. The dividend paid by the Company in 1908 was 10 per cent.

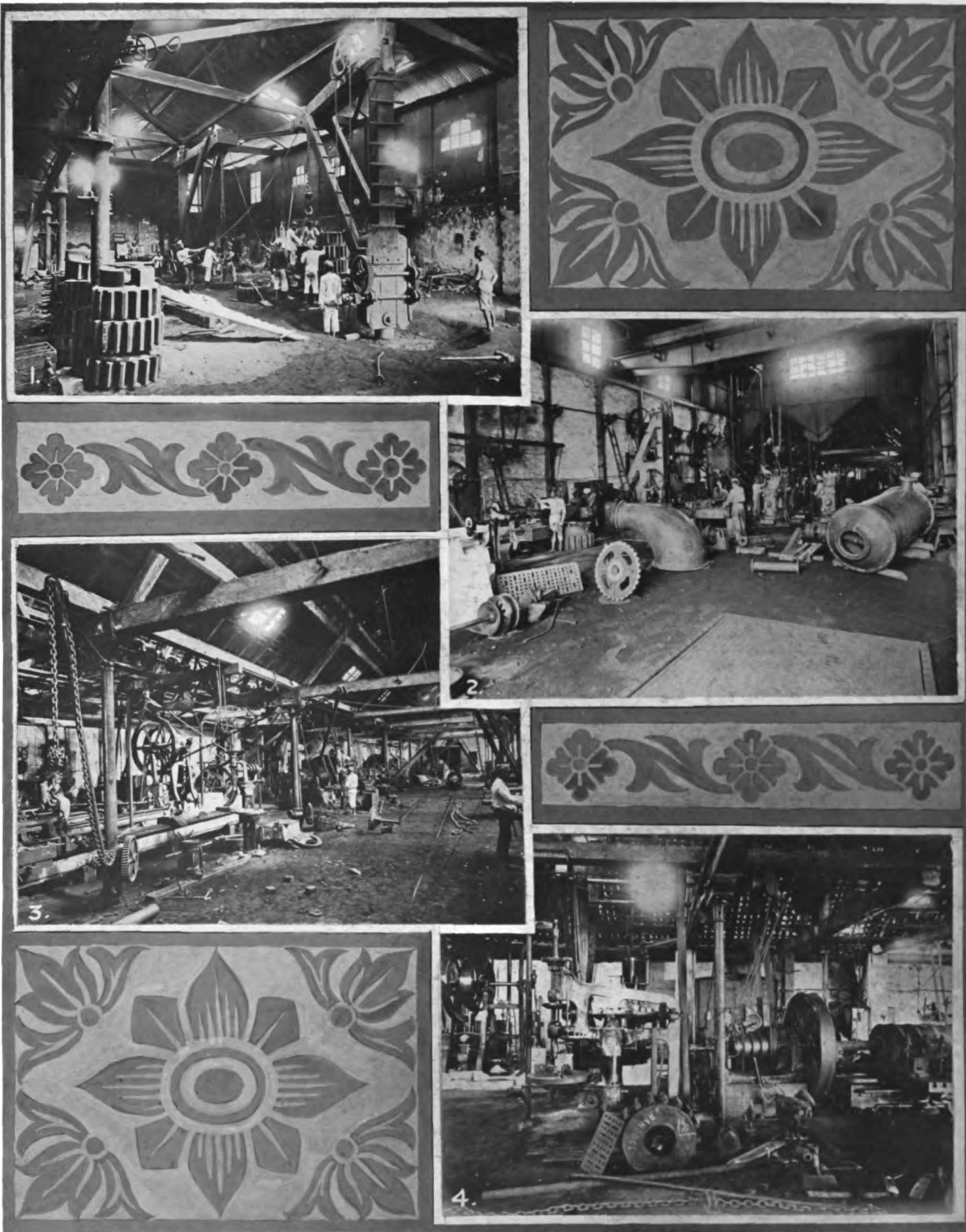
NAAML. VENN. VELODROME.

ALTHOUGH they have been established for fourteen years only, this firm enjoy the distinction of carrying on the oldest motor car business in Java. They have spacious accommodation at their command, including warehouse and garage, and keep a very considerable number of motor cars and bicycles always in stock, with large supplies of "spare parts" and accessories of all descriptions for repair work. In addition, they deal in sporting goods and weapons of all sorts and sizes.

As agents for the Humber Company, the *Forgers* bicycle, Michelin and Dunlop tyres, and Bosch Magneto, they have the reputation of being thoroughly up-to-date and of



N. V. STROOHOEDEN-VEEM (KOOP & CO., FINANCIAL ADMINISTRATORS).
 1. COFFEE DRYING. 2. GODOWNS. 3. COFFEE SORTING.



N. V. FABRIEK VAN STOOM EN ANDERE WERKTUIGEN, "KALIMAS."

1. FOUNDRY.

2. FITTING SHOP.

3. TURNING SHOP.

4. MACHINE SHOP.

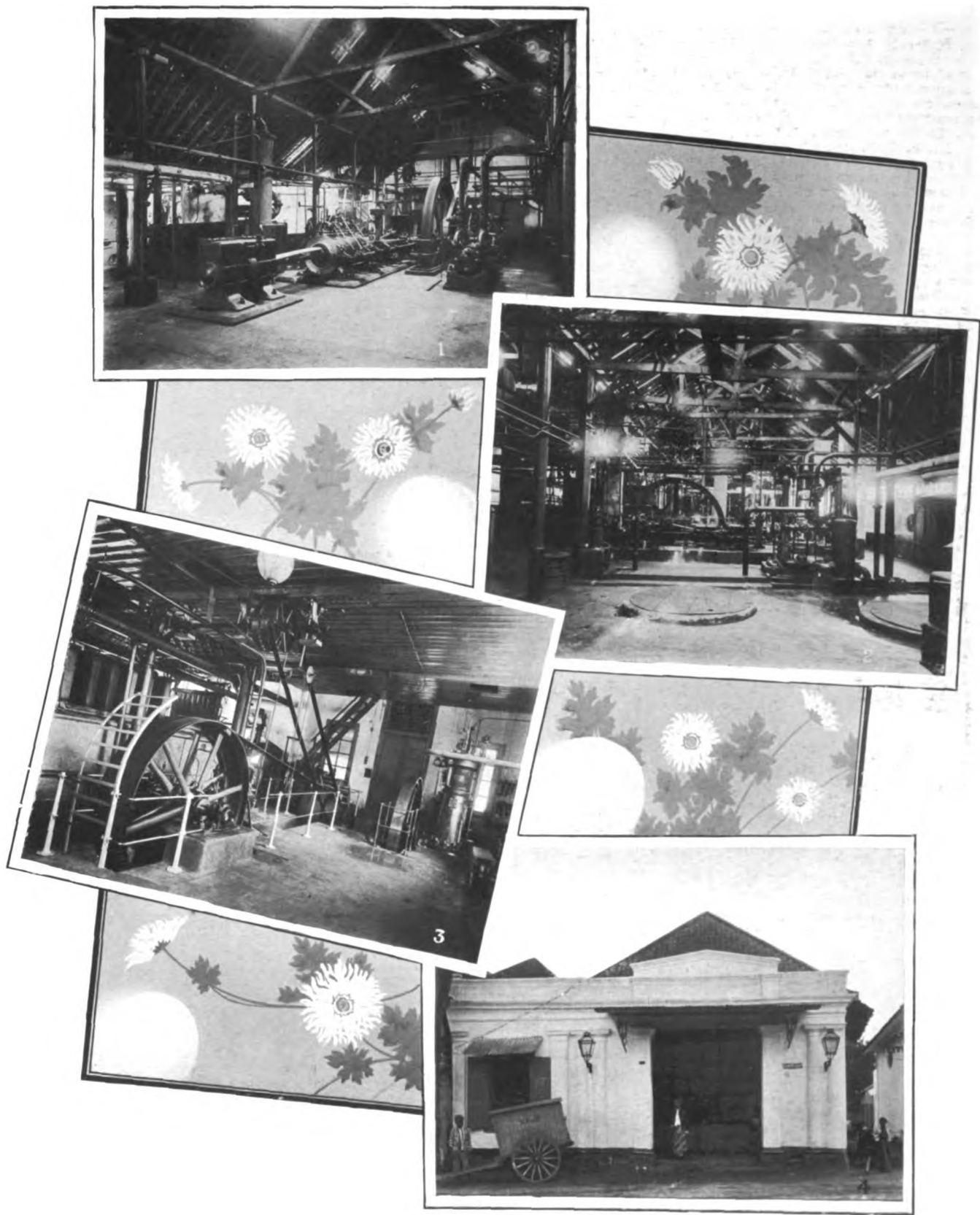


N. V. HANDEL MAATSCHAPPIJ O. DUNKERBECK & CO.

1 and 4. SHOWROOMS.

2. OFFICE.

3. EXTERIOR OF PREMISES.



NAAMLooZE VENNOOTSCHAP YSFABRIEK OLIE & CO.1

1 and 2. THE TOWN FACTORY.

3 and 4. THE GEMBLONGAN FACTORY.

importing only first-class goods. The cars and cycles from the "Humber" factories are in high favour in Java and find purchasers in many different parts of the island. Among the owners of the former may be mentioned the president of the Java Motor Club—the Hon. Teding van Berkhout, and the secretary, Mr. L. C. R. Breeman.

The repairing shops of the Company which are under the capable management of Mr. P. Maeye, formerly of the Panhard works, Paris, and of the Fiat Company, Turin, are well worth a visit. They cover a large area, and are equipped with electro-plating and enamelling machinery, lathes, joinery works, retreading machines, and generally with all modern appliances for repairing or fitting. The whole of the machinery is worked by a gasolene engine and dynamo. The premises are lighted throughout by electricity, and are

of Mr. J. J. P. Kohl, and under his capable administration great progress has been made. The Company are general ironmongers, dealing with all kinds and all classes of machinery. Their capital amounts to £400,000 sterling, and they enjoy an excellent reputation in Rotterdam, where their headquarters are situated, and in Amsterdam, Brussels, and London, where they also have branches. The ramifications of their Sourabaya agency now extend to all parts of Netherlands India, including even the more distant places in Borneo and Celebes. They cater very largely for the great industries, and especially for the sugar industry, keeping always a considerable stock of engines and such general machinery as is required by the numerous factories in East Java.

Mr. Kohl, who has been so largely instrumental in building up the fortunes of the

and rubber plantations, and has the sole agencies for Messrs. Hasselman, Amsterdam; Hayward, Tyler & Co., London; and Tangyes, Ltd., Birmingham. The firm engages largely also in the motor car business, being managers for the sale of the well-known "Spyker" cars, made by the "Industrieel Maatschappij Trompenburg," and has a well equipped department for repair work.

Mr. Hellendoorn resides at The Hague, where the head offices of the firm are, and superintends the European business. Mr. C. M. van Zyll de Jong, who came from Holland three years ago, is the manager at Sourabaya.

J. LAZAR & CO.

In any list of the important machinery and hardware merchants trading in Sourabaya to-day, the firm of Messrs. Lazar & Co. must



PREMISES OF THE NAAMLOOZE VENNOOTSCHAP VELODROME.

most conveniently situated in the heart of the town.

The capital of the Company is G. 100,000. The managing partner at Sourabaya is Mr. C. J. F. Brest van Kempen, and the assistant manager Mr. A. Monod de Froideville. A branch has recently been opened at Semarang under the control of Mr. J. F. Spier, who is also a partner in the firm.

R. S. STOKVIS & ZONEN, LTD.

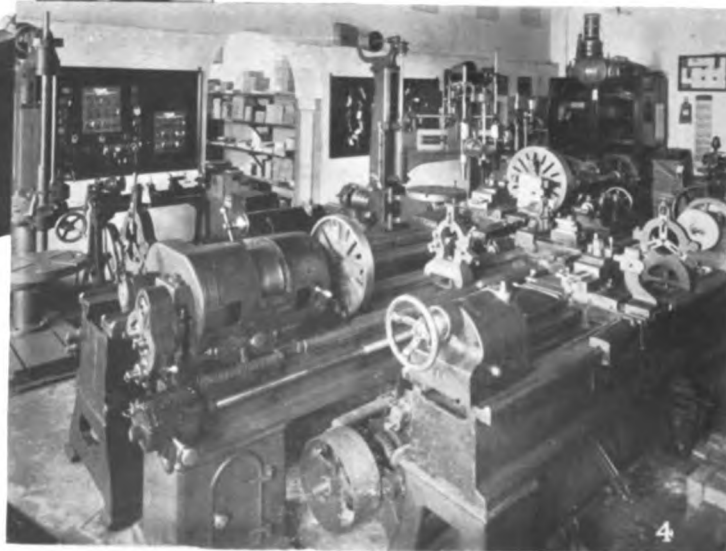
THE firm of Stokvis & Zonen, Ltd., established an agency at Sourabaya in 1902, but for the first year or so the business transacted was comparatively small and unimportant. In 1904 their interests were placed in the charge

Company in the Dutch East Indies, was born in Breslau, Prussia. He came to Java in 1889.

TECHNISCH BUREAU, J. F. R. HELLENDORRN.

THIS firm, established in 1888 by Messrs. J. Grundel and J. F. R. Hellendoorn, is now carried on under the name of Mr. J. F. R. Hellendoorn, who remains sole proprietor of the business. It is the only firm in Java making a speciality of sugar-curing installations, and is sole agent for the centrifugals (driven by belt, water, or electricity), of Messrs. Pott, Cassels & Williamson, Motherwell, Scotland. It supplies all kinds of machinery for sugar factories and coffee

be included. The business was established in 1901, and is under the personal management of the two partners, Messrs. P. N. Galstaun and J. Lazar. The former has been resident in Java for some thirty years, while Mr. Lazar has a record of twenty years in the country. Their premises cover a large area, and the stock maintained gives a good idea of the extent and importance of the firm's interests. Its value is something like G. 200,000. A speciality is made of all the requirements of the sugar factories. British goods, imported direct from Scotland, are handled principally, but a smaller, though important, trade is carried on with America and Calcutta. The articles from the latter places comprise almost everything included under the general heading of hardware.



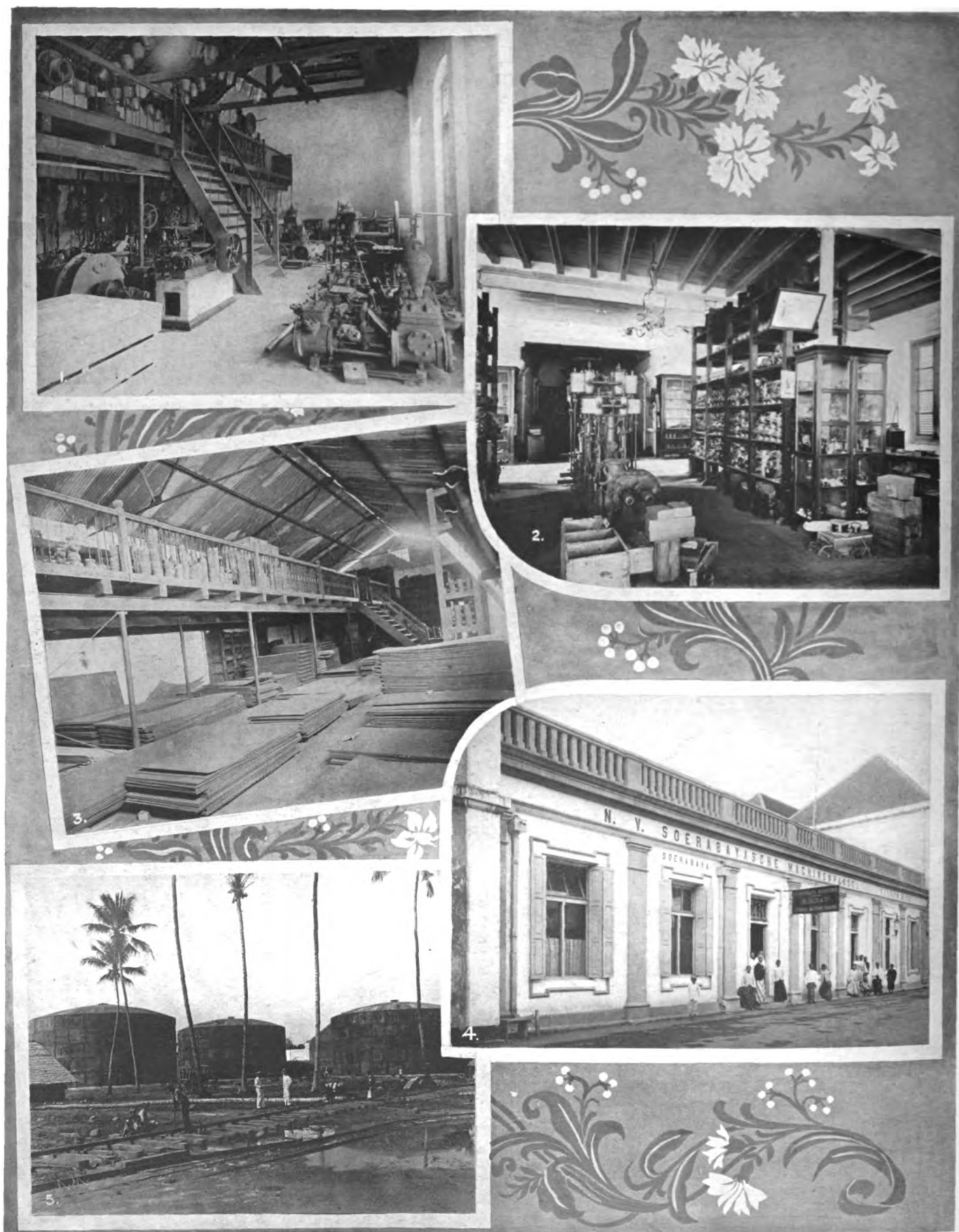
MESSRS. R. S. STOKVIS & ZONEN, LTD.

1. FRONT VIEW OF THE PREMISES.

2. MANAGERS OFFICE.

3. GENERAL OFFICE.

4. PART OF SHOWROOM.



N. V. SOERABAYASCHE MACHINEN HANDEL VOORHEEN BECKER & CO.

1 and 2. SHOWROOMS. 3. IRON AND ZINC STORES. 4. BRANCH AT SEMARANG. 5. STORAGE TANKS MADE BY THE FIRM FOR THE MODJO-KERTO SPIRIT FACTORY.



SHOWROOMS AND MANAGER'S OFFICE OF VERWEY AND LUGARD.

ASSURANTIE KANTOOR OOST JAVA.

THE business of the East Java Insurance office is much more varied than and extends far beyond the routine of the ordinary insurance agency. The proprietor of the enterprise, Mr. H. S. Wentink, among his other interests is the importer of several brands of high-class wines, much favoured by connoisseurs, and the owner of the only gas mantle factory in the country. This latter industry is quite in its infancy, but there is little doubt that it will make considerable progress in the near future. Special attention is being paid to it now, and new and up-to-date machinery is being installed in the workshops. The insurance business of the "Assurantie Kantoor" includes the conduct of agencies for the Onderlinge Levens

this Company can boast of a wide circle of customers throughout the whole of Java. Their head-office for the East was established in Sourabaya in 1883, and in 1895 a branch was opened in Semarang. They also have agencies in Batavia, Bandoeng, and Modjokerto; and a buying and commission office in Amsterdam. The chief director of the Company is Mr. J. R. Becker, who resides in Europe; while Mr. W. F. de Vaynes van Brakell Buys is manager for the Sourabaya house, and Mr. W. Wolterberk Muller for the branch at Semarang.

The Company are sole agents for Meitz & Weiss motors; Dicker's steam appliances; Fludor solder; the Perfect Fire Extinguisher; Kloos & Van Amstel's tiles for streets and factory floors; Clayton & Shuttleworth for locomobile and steam engines; Lutterbach's

Now they have branches in Batavia, Medan (Deli), and in the Straits Settlements; and it is contemplated that others will be opened before long.

They do a large business in automobiles. They are agents for the "Fiat" and "Oryx" cars, and for H. Büssing, of Braunschweig, for motor omnibuses and waggons. Out of the 1,080 motor omnibuses running in London, 366 were supplied by Büssing. Simplicity of mechanism, reliability, power, and reasonable price have all combined to make the "Oryx" car one of the most popular on the road. Since it made its first public appearance, and astonished the motoring world by its speed, efficiency, simplicity, and strong construction, it has been universally recognised as one of the leading cars, particularly for the hot Indian climate. The "Fiat" car



1. SOURABAYA PREMISES.

2. BATAVIA PREMISES.

3. J. F. VERWEY, Manager at The Hague.

Verzekering Eigen Hulp, the Onderlinge Spaar en Deposito Banke, the Oost Indische en Javassche Zee en Brand Assurantie Mij., the Excess Insurance Company, Ltd. (motor car insurance) and the First Dutch Insurance Company, Ltd., "Lotisico," (lottery insurance).

Mr. Wentink is a Hollander who came to Java some fourteen years ago as an officer in the Netherlands India army. He retired from the service, and started upon his commercial career after the Lombok campaign.

**N. V. SOERABAYASCHE MACHINEN
HANDEL VOORHEEN BECKER & CO.**

As providers of all kinds of machinery, agricultural implements, tools, electrical fittings, sanitary ware, iron, steel, and raw material,

belting; Van den Berg's, Ltd., sanitary ware; M. Brenner, of Berlin, for railway material, locomotives, &c.; Bell's Asbestos Company, London; Sachsenwerk's electrical installations; and Rheydt's cables, &c. They are the proprietors of a large factory in Sourabaya for the manufacture of roofing, tanks, iron lighters, and bridges; and another at Pasoeroean known as "De Constructie Winkel de Bromo," for the handling of Weston centrifugals. Their workshops have the latest appliances for carrying out all kinds of repairs, especially in the sugar-milling machinery.

**VERWEY & LUGARD AUTOMOBIEL
MAATSCHAPPIJ.**

THIS well-known Eastern firm established themselves in Netherlands India in 1907.

as is generally known, has had a wonderful run of successes in some of the great international motor races. In 1905, in the Gordon-Bennett Race, the Vanderbilt Cup Race, and in the Ardennes Circuit, the "Fiat" cars were prominent in establishing the prestige of Italian workmanship. Another great achievement was that of Signor Lancia, in the race for the Coppa del oro in 1906. In 1907, in the three greatest international events of the year, Signor Nazaro established his position as the premier motor driver of the world, with a "Fiat" car. Recently, also, the races in the Circuit of Boulogne, and in the Circuit of Savannah, have been won by the "Fiat" Company, and the list might be extended almost indefinitely. Such successes must be a sure



PROTTTEL & CO.'S BUSINESS PREMISES.

sign of the car's pre-eminence in both design and construction. The "Fiat" cars are very popular in Java. H.E. the Governor-General and Mr. D. F. W. van Rees, Vice-President of the Council of Netherlands India, both use them, and they are in general demand throughout the country.

The European branch of Verwey & Lugard is at The Hague, and is under the management of Mr. J. F. Verwey. A retired officer of the Netherlands Indian Army, Mr. Verwey, having gained the necessary technical experience in a French automobile factory, opened the first automobile business in Holland. In 1902, during the railway strike, the firm did much to enhance their already fast-growing reputation by supplying a sufficient number of motor cars to carry on the whole of the postal service.

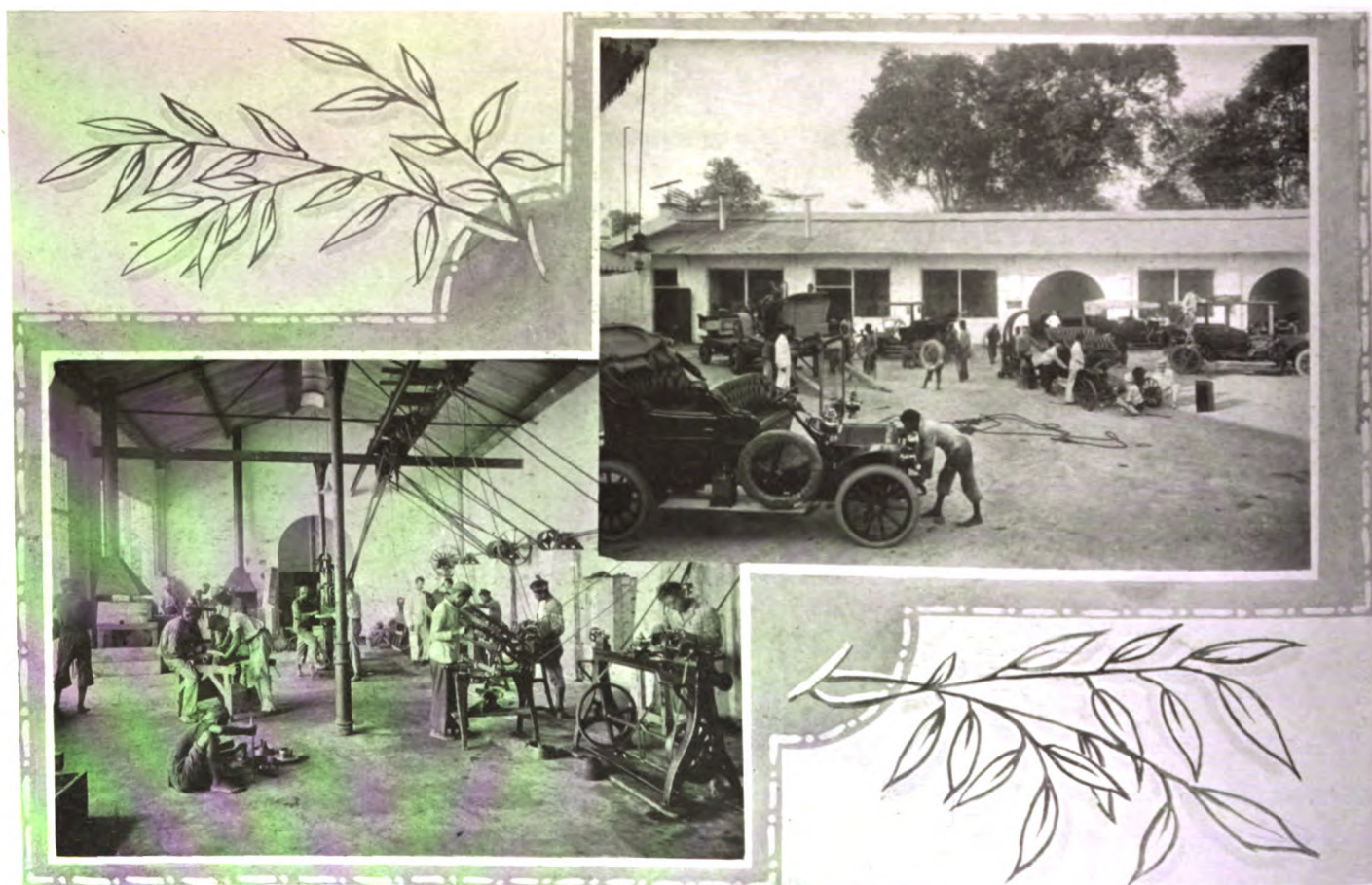
in coffee, rice, and sugar mills. Their head offices are in London. The first branch in Netherlands India was established in Sourabaya in 1877, and another was opened in Batavia in 1903.

The firm own very extensive premises in Sourabaya, including large and well-fitted stores, repair shops, and engineering yards, and keep complete stocks of machinery always on hand. In addition to undertaking the repair of all machinery used in the various industries, they have established a reputation for their successful work in repairing ships. They give constant employment to about one hundred men.

Mr. B. N. Powell, the local manager, is an Englishman. He has been resident in Java for twenty-eight years, and has spent a quarter of a century in the service of the

is made of sugar-milling machinery, and it is scarcely too much to say that almost every factory in the East of Java has at one time or another been supplied with machinery of some kind by them. A patent carrier or conveyor, which has been reconstructed in accordance with their own ideas to suit local conditions, has become extremely popular in all sugar factories, and is now almost universally used throughout the island. The firm have a foundry, and well-equipped turning, fitting, and pattern shops, which cover an extensive area and give employment to some three hundred people.

The manager of the business, Mr. P. J. Roostee, came to Java from Holland some twenty-five years ago, and during the whole of this period he has been connected with the one firm.



VERWEY AND LUGARD: REPAIR GARAGE AND SHOP.

The premises of the Company in Sourabaya, which have only just been completed, are splendidly equipped. They include large show rooms, garage, and repairing shops, where repairs to any part of any make of car can be successfully undertaken. The general manager for Netherlands India is Mr. Th. B. A. Faubel, a thoroughly practical business man, who has travelled in many parts of the world in the interests of the Company. The manager at Sourabaya is Jhr. Van Heurn; at Batavia, Mr. W. Zweerts de Yong; and at Medan (Deli), Mr. H. van der Weg.

LIDGERWOOD MANUFACTURING COMPANY, LTD.

THIS firm are manufacturers of all kinds of machinery, but deal especially in that required

Lidgerwood Manufacturing Company. For the past fifteen years he has filled creditably the position of American Consul in Sourabaya.

NAAMLLOOZE VENNOOTSCHAP "MACHINE-FABRIEK DAPOEAN"

(Voorheen Younge & Gill).

ONE of the oldest machinery firms in Java is the Machine-Fabriek Dapocan. It was established on a small scale in 1858 by Messrs. Younge & Gill, but owing to the progressive policy adopted by the proprietors in supplying the market with thoroughly up-to-date commodities, and in always endeavouring to meet the wishes of their clients, it has steadily, but surely, grown into one of the largest undertakings of its kind in the country. A speciality

PROTTTEL & CO.

THE superior quality of the goods stocked by Messrs. Protte & Co. has gained for them a high reputation. The firm was founded in 1884 by Mr. A. H. Protte, who in the following year took his brother, Mr. Albert Protte, into partnership. Under the able direction of the two partners, the business increased rapidly, and at the present time is one of the foremost of its kind in Sourabaya. In 1905, Mr. Albert Protte retired, leaving Mr. A. H. Protte sole proprietor of the enterprise. The capital of the Company, since 1907, has been G. 1,000,000.

The business premises, which comprise a handsome new building, built on thoroughly modern plans, are situated in Aloon Aloon Straat. With splendid window space at their

disposal, the firm have a remarkable opportunity, of which they take full advantage, of tastefully displaying their many novelties. The showrooms exhibit a wide range of goods, and the various departments, into which they are divided, are arranged in so systematic a fashion as to avoid all confusion. The purchaser has no difficulty in finding exactly what is required. All articles of household furniture, including English bedsteads, mirrors, carpets, lamps, and pianos, as well as carriages and harness, are imported from Holland, Germany, France, England, and recently from America, while in addition there are ladies' and gentlemen's outfitting departments and another for upholstery, all of which are well stocked with goods from the centres of the European trade. The firm

monthly turn-over was comparatively small. Gradually, however, enterprise and skilful management began to have their effect. The firm became more widely known; their smart up-to-date methods of doing business were appreciated, and the trade increased by leaps and bounds. Now, the premises of the Company, situated in the main business thoroughfare of the town, will compare most favourably with buildings of a similar character in any part of the country. They are modern, well-constructed, spacious, and attractive. Wide verandahs run along the whole 125 feet of frontage, and, incidentally, have the effect of keeping the inside of the store delightfully cool. The showrooms themselves have a depth of 120 feet. They are large, lofty, and fitted in the most com-

had been brought to bear in the conduct of his business was infused into the management of this new venture, with the same excellent results. The estate is now furnished with the latest type of machinery, and its products are recognised as being of first-class quality. Only last year it was turned into a company with a capital of G. 750,000.

N. V. HANDEL MAATSCHAPPIJ "HET CENTRUM."

As agents for the White Steam and Clements Bayard motor cars, this firm established their head branch at Batavia in 1901 under the management of Mr. A. Diemont. Quite recently another branch has been opened



SHOWROOM AND WORKSHOP OF MAURICE WOLF, JEWELLER, & CO.

have established a large connection not only in the city, but throughout the whole of Netherlands India.

Apart from this flourishing business, Mr. A. H. Protel has other interests. He is the owner of the steamer *Rembang*, and the barque *H. Protel III.*, besides three smaller steamers and two steam long-boats. He also possesses coal mines and forests in Borneo, and copper, lead, and silver mines in Soerakarta.

HENDERSON & CO.

THE large wholesale and retail business of Messrs. Henderson & Co. was established by Mr. W. Henderson about a quarter of a century ago. He commenced trading in a very modest way, dealing chiefly in soft goods, and for the first year or so the

plete fashion, the numerous glass show-cases, all of which have been imported from Europe, providing thousands of feet of space for the display of a bewildering variety of articles. The stores, indeed, remind the visitor most forcibly of some of the best-known emporiums of the West. The Company are general importers, and stock practically everything. Chiefly their goods are purchased from the largest commercial houses in England.

Mr. Henderson, who still remains the managing director of the business, has had some twenty-eight years' experience of the East. The first year or two he lived in Singapore, but at least twenty-four of the twenty-eight have been spent in Java. A few years since he acquired a tapioca estate at Ngadiloweh. The same enterprise which

in Sourabaya and placed under the control of Mr. R. Diemont, for the sale of Brasier and Berliet cars. The firm also held the agencies for the Triumph Cycle Company, Ltd., and the Hammond Typewriter Company, Ltd. Their commodious premises include a garage, showrooms, and fully equipped workshops for the repair of all parts of motor cars, cycles, and typewriters, and as Messrs. Diemont are thoroughly practical mechanics, it follows that commissions undertaken are carried out in a workmanlike manner.

Some time ago certain American cars were imported, but they were found unsuitable for the country, and the firm have since dealt only in those mentioned above.

The "Het Centrum" Amsterdam office is in the charge of Mr. W. de Bordes.



N. V. HANDEL MAATSCHAPPIJ "AU BON MARCHÉ."



GRIMM & CO.'S WELL-KNOWN RESTAURANT.

MAURICE WOLF.

As jewellers, watchmakers, diamond polishers, and gold and silver smiths, the firm of Maurice Wolf have come rapidly to the front, and theirs is now one of the leading establishments of its kind in Java. Mr. Wolf arrived in Batavia in 1892. He did not, however, remain long in the capital city. The prosperity of Sourabaya in the heart of the great sugar district appealed more strongly to him, and it was there that he at once decided to start his enterprise. He commenced trading in a quiet, modest way, but success came quickly. Mr. Wolf has a thorough practical knowledge of all details

delightful souvenirs of a visit to Java, in the form of dinner standards, serviette rings, kabaya pins, wajang figures or brooches, can be purchased at the store. The workshops, which are spacious and replete with all modern apparatus used in the various handicrafts, have produced some most interesting articles, including a gold album presented to the Queen of Holland and a silver crown of laurel leaves for the Dutch warship named after the naval hero, Michiel Adriaensz de Ruyter.

Many awards have been gained by the firm at different exhibitions, including the International Exhibition at Batavia in 1893, and the exhibitions at Bondowoso in 1902, Blitar in

word in East Java. The buildings, situated in the centre of the main thoroughfare of Sourabaya, have recently been considerably extended, and now present a bold frontage of some 75 feet. But while exterior appearance of the premises is inviting, the interior arrangements are by no means less pleasing or attractive. The lofty, well-lighted, well-ventilated showrooms, with a depth of 250 feet, are stocked with lingerie, fancy goods, crystal and copper work, electro-plate, furniture, and general household utensils, the selection provided being such a wide one that the taste of the most fastidious is usually easily gratified.

The firm employ a staff of forty-six persons, and conduct a business of so cosmopolitan a character that during the day practically every European language may be heard on their premises in one quarter or another. Associated with the "Au Bon Marché" is a ladies' costume department, known as the *Atelier Mathias*, where a Viennese cutter and an English lady cutter are engaged. The members of the household of His Excellency the Governor-General are included among the *clientèle* of the *Atelier*.

The present manager of the firm, Mr. D. J. C. Dijkers, arrived in Sourabaya some three years ago, and the business has benefited very considerably by his guidance. Mr. Dijkers is an enthusiastic sportsman, and his advent in the town has been greatly appreciated by the local football clubs. He is a properly qualified referee, and was for some time a member of the committee of the "Netherlands Football Association." In Sourabaya he has joined the Thor Football Club.

J. M. C. NIJLAND.

MR. J. M. C. NIJLAND commenced business as a printer, stationer, bookseller, and fancy goods dealer in a very small way, in Sourabaya in 1902. For the first few months, his turnover was anything but satisfactory, but possessed of a keen commercial spirit and considerable energy, he would admit nothing like failure. Now the business has been placed on a very solid basis; it is flourishing, and is still gradually extending its connections.

The firm has occupied its present quarters since 1906. The premises cover a very considerable area, for in addition to the shop which itself is some 100 feet by 50 feet, and the house of the proprietor, they comprise large, double-storied steam printing works. In the shop are all kinds of stationery, books, and fancy goods, forwarded direct from Europe and America, by the firm's own agents. A feature of the printing works is the department for autotype reproduction work. Eight Europeans and over one hundred native compositors and assistants find employment in the various sections of the business.

Mr. Nijland is a Hollander who has been in Java for fourteen years.

E. FUHRI & CO.

THIS firm of stationers, booksellers, and printers has been established for over half a century, and is to-day a well-known business house not only in Sourabaya, but throughout the whole of Java. A large and varied selection of stationery, and books in the English, French, and German languages, are always in stock; while a speciality is made of office requisites. The firm may also be thoroughly recommended to the visitor in search of attractive and well-executed picture postcards.

Messrs. Fuhri & Co. are the printers and



OPENING CEREMONY, ARAB CLUB.

of his business. He himself holds a diploma for diamond-cutting, and his staff has always consisted of first-class craftsmen obtained from Europe.

The business premises, situated in the main thoroughfare of the town, are fitted with beautiful show cases in which are now exhibited a bewildering array of the choicest samples of the jeweller's art. Large and well-selected stocks are always kept on hand; the firm's European buyer is in touch with the best markets, and he keeps them well supplied with all the latest novelties. These are then retailed at very reasonable prices. A speciality is made of all native work, and

1904, and Medan (Deli) in 1908. In 1893 the firm received an official visit from His Excellency the Governor-General of Netherlands India, and they have been honoured by visits and commands from Their Majesties the King and Queen of Siam, the Sultans of Koctel, Deli, Cheribon, and Djocjakarta, and the Soosohoonan of Soerakarta.

**NAAMLOOZE VENNOOTSCHAP HANDEL
MAATSCHAPPIJ "AU BON MARCHÉ."**

OF such excellent quality and value are the goods stocked by this firm that the name of "Au Bon Marché" has become a household

publishers of the *Magazine of Sport*, the *Magazine of Architecture*, *Weekly Indian Magazine*, the *Theosophical Monthly*, and the *Sourabaya Courant*. Their printing department is equipped with the latest type of machinery, and their half-tone and lithographic work especially are excellent.

Mr. F. d'Arnaud van Boeckholtz, the manager of the business, holds a commission as captain in the defence forces of the country.

N. V. MAATSCHAPPIJ RESTAURANT GRIMM & CO.

"ONE of the smartest and one of the most comfortable restaurants in Sourabaya." Such is the popular verdict regarding Grimm's; and indeed it is an establishment which fully deserves the high reputation it has gained,

rooms and confectionery department in the town would lead one to suppose. Many residents prefer to obtain their food already cooked from Grimm's rather than give themselves the trouble of superintending the vagaries of native servants, and the Company, too, caters for nearly every festival and feast held in the neighbourhood. The string band which plays in the dining rooms upon certain evenings each week is specially engaged by the firm's representatives in Europe on a contract for two years, at the end of which period the men are replaced, so that a constant stream of fresh musical talent is supplied. When the band is not engaged at the restaurant its services may be obtained for private soirées, dinner parties, and dances.

The management of the firm is in the hands of Mr. J. Rups, a Hollander who has

hundred years. The Major himself served the Government as a Lieutenant and Captain of Chinese for over twenty years, and upon his promotion to his present rank two years ago, the Assistant Resident of Sourabaya paid a deserved tribute to the manner in which he, and his father before him, had carried out their duties. "No family," said the Assistant Resident, "has held high public offices for so long, and none is so deserving of the praise and thanks of the Government both in Holland and Netherlands India." The first representative of the family to come from China was The Sing. He started trading in Sourabaya, and was soon appointed Captain China. The present Major's great-grandfather—The Gwan Tjing—was for many years Major of Sourabaya, and his grandfather, The Boen Keh, also held the same



COMMITTEE OF THE CHINESE CHAMBER OF COMMERCE, SOURABAYA.

Reading from left to right:
Front row: OOI KANG GWAN, LIM THING HOO, THOE PO THIE, THO POE LAUW, LIE SIENG HAWK (President), GO HOO SWIE, LIM KEE GIE, AN YANG ENG, DIE HONG SWIE, TAN TIAU TIWAN.
Second row: THENG SIACU KOK, NIO SEE WAN, YAP KHAI LAM, KWEE THOAN KIE, OOI TIANG SAN, TAN THENG KIE, PER SENG BIE, PER SENG HWIE, LAUW TUN HIE, ANG HOK THENG.
Back row: LIM TIN TIAUW, LAUW OH THOEN, OOI KA TEK, TAN MA HO, THO KHAI WAN.

for an excellent *cuisine*, choice wines, and good music is a combination which may always be found there.

The firm has been in existence for many years, but has occupied its present premises only since 1888. Until thirty years ago the business was a private venture. Then, however, it was turned into a company with a capital of G. 100,000, and under an enterprising management the undertaking has grown very rapidly, until now the trade carried on is far more important and widespread than even the firm's palatial dining

had considerable experience as a caterer both in Europe and Netherlands India. Mr. Rups has been in Java for about twelve years.

COMMERCIAL : ORIENTAL.

MAJOR THE TOAN ING.

MAJOR THE TOAN ING, the head of the Chinese community in Sourabaya, is the representative of a family which has held high official positions for the past one

honourable position. It was the present Major's grandfather who may be said to have laid the foundations of the family's material prosperity, for he it was who, some eighty years ago, built the sugar factory which has since proved a continual source of wealth. The factory is "Tjandi," and is situated at Sidoardjo, in the residency of Sourabaya. In the early days the power was supplied in a very primitive fashion through the agency of bullocks; later a water-wheel did the work, while now the building is equipped with the best modern

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machinery. The factory is surrounded by a plantation of about 1,000 acres of splendid land which produces as much as 180 piculs of sugar to the acre, whereas the average yield per acre for the whole of Java is from 90 to 120 piculs. The factory, which is managed entirely by Europeans, has an output of 100,000 piculs per annum. Major The Toan Ing is a Mandarin of the Empire of China, this title having been conferred upon him by the late Emperor. He is a director of the Hokien Kongsoe, a society whose object is to regulate Chinese observances and to see that no Chinaman, however poor, is buried without a proper tribute of respect. The society has done a great deal also towards bringing the dress of Chinese ladies more in accord with modern ideas. The Major is a Commissioner of the Sourabaya Municipality, a member of the Society for the Prevention of Cruelty to Animals, and a freemason. He is a patron of the Temple of Confucius and of the Tiong Hwa Hwee Kwan Society, and generally may be said to take the greatest

THE TIK GWAN.

MR. THE TIK GWAN is a descendant of one of the oldest Hokien families in Netherlands India. For the last four generations his ancestors have been born in Java, and a number of them have held high official rank. His father, Mr. The Siok Lian, as a young man, carried on business as a merchant and was the owner of a large sugar factory. His various commercial enterprises being highly successful he was soon able to retire, and he is now the owner of considerable property in and around Sourabaya. Although much interested in the various industries of Netherlands India, and especially in the cultivation of sugar, Mr. The Tik Gwan has not up to the present been engaged in any commercial pursuit. For the past four years, however, he has held the position of Lieutenant of Chinese in Semarang.

Mr. The Tik Gwan married a daughter of the late Oei Tjie Sien, of Semarang, and

N. V. HANDEL MAATSCHAPPIJ SAN LIEM KONGSIE.

AMONGST the industrial undertakings owned, managed, and financed by Chinese in Sourabaya, that of the San Liem Kongsie is certainly one of the most important. In the teak wood trade they are by far the largest Chinese firm in the district, and rank with the best European houses, not more than two of which could be said to carry on so extensive a business. For many years, the firm have held enormous forest concessions from the Government in the Semarang, Kediri, Rembang, and Sourabaya districts, but it was not until five years ago that the partners increased the scope of their undertakings by erecting large saw-mills. Previously their activities had been confined to the purchase and export of timber. The saw-mills are well situated at Petjindilan, on the banks of a navigable river, providing easy communication with the harbour, and they are also connected by several special lines with the State Railways in the forests. The machinery with which they are equipped is of modern English manufacture. They contain four large circular saws, two horizontal and one large saw for planking, the power for driving all of which is supplied by a steam engine of 120 horse-power.

First-class timber only is shipped to Europe, where Messrs. Nortier & Co., of Amsterdam, act as the firm's agents, but timber of all classes is sent to the ports of America, South Africa, and, in smaller quantities, to China and Japan. In various competitions in different parts of the world, the firm have gained awards for their exhibits. Locally they are large Government contractors for the supply of railway sleepers, &c., and altogether employ some 2,600 men.

The firm were established in 1892 by Messrs. Tan Hian Gwan, Liem Bong Lien, and Liem Sian Yoe. Mr. Tan Hian Gwan, who carries out the duties of managing director, is president of the local educational society, Tiong Hoa Hwee Kwan, and of the Hak Boe Tjong Hwee, a society which has for its object the preservation of old Chinese customs. Mr. Liem Sian Yoe is also a member of the committee of the Tiong Hoa Hwee Kwan, of which he was one of the founders. Mr. Liem Bong Lien has been in the Government service as a lieutenant for the last four years. Two of the partners live in Sourabaya, their houses being amongst the finest in the district; while Mr. Liem Bong Lien resides in Pasoeroean.

HANDEL MAATSCHAPPIJ KIAN GWAN.

THE firm of Kian Gwan have had a branch at Sourabaya for some eighteen years. Besides being shipping and general agents, they are large buyers of sugar, and import considerable quantities of rice from Saigon, Rangoon, and Siam for the local market. They have several sugar factories in various parts of the island, four of which are situated in the Sourabaya district and are financed from the local office. These are Kreet, in Malang; Ponon, near Djombang; Tanggoelangan, in Sidoardjo; and Redjo Agoeng, in Madioen. The firm represent numerous companies, including Yek Tong Lin & Co., of Manila; the I On, Ban On, Hip On & Co., of Hongkong; and Wee Bin & Co., of Singapore. The head agency for the firm's shipping business is at Semarang.

The manager of the Sourabaya office is Mr. Lie Siong Hwie. He has held this position for two years only, but has served the Company in one capacity or another for the past twenty years. For some time he



CHINESE MAJOR, CAPTAIN, AND LIEUTENANTS, SOURABAYA.

TAN SIOK ING. (Lieutenant.)	TIAE SIN TAY. (Lieutenant.)	TAN HIE SIOE. (Lieutenant.)	TAN TIN OEN. (Lieutenant.)
KWEE TAN HWAY. (Lieutenant.)	THE TOAN ING. (Major.)	HAN TJONG KHING. (Captain.)	

interest in all matters affecting the welfare of the Chinese community which he so worthily represents. The Major married the daughter of the Chinese Lieutenant of Sidoardjo and has one son—The Ing Bian—who is being educated in both the English and Dutch languages.

HAN TJONG KHING.

MR. HAN TJONG KHING, Captain of Chinese in Sourabaya, is also simply following the traditions of his family in holding office under the Dutch Government, as his ancestors have held similar positions for many generations past. He is a member of the Municipal Council in Sourabaya, and for twenty-one years has held the position of a Chinese officer. Commercially his interests are almost entirely centred in Java.

has four children, all of whom are being educated in accordance with European ideas.

TAN HIE SIOE.

MR. TAN HIE SIOE, Lieutenant of Chinese at Sourabaya, is a man of some thirty-five years of age who has travelled extensively. His ancestors migrated from China some four generations ago, and the various members of his family have made Java their home ever since. His commercial interests are varied. In addition to having control of a number of pawnshops, he owns large tobacco plantations, from where considerable quantities of leaf, bearing the trade mark "Soedineoro," find their way annually to the European markets. He has also a concession for cutting teak.



STAFF AND GODOWNS OF HANDEL MAATSCHAPPIJ "KIAN GWAN," SOURABAYA.



OFFICES OF ONG TJIEN HONG (CHOP HOO BEE).

was their agent at Djocjakarta. Mr. Lie is president of the Sourabaya Chinese Chamber of Commerce, in the foundation of which body he took a considerable interest. He is also the founder of a local temple devoted to the worship of Confucius.

BAN HONG HIN.

THE Chinese import and export firm carried on under the style of Ban Hong Hin was established in Sourabaya in 1889. Now it has branches in Amoy and Bagan Api Api, is doing a gradually increasing trade with many of the ports in China and the Straits Settlements, and has a "turnover" which amounts annually to many millions of guilders. At one branch alone the amount of business transacted represents considerably over G. 2,000,000 during the twelve months. The

interests in Sourabaya to the teak wood trade. One of the partners in the enterprise—Mr. Ong Ping Yauw—has charge of the business, and under his capable direction it has grown very considerably during the past few years. Born in the Sourabaya district, he is a worthy representative of a good Chinese family which came from Amoy to Netherlands India some eleven generations since. He is a member of the committees of the Chinese School, of the Chinese Club, and the Confucian Church. Apart from the firm, Mr. Ong Ping Yauw himself carries on business as a general merchant and dealer in edible bird's-nests.

CHOP HOO BEE.

THIS important Chinese firm of importers and exporters was established some thirteen

district, and is the owner of a rice mill in the Sourabaya district, where he prepares Java-grown rice for the local market. Small quantities are also exported to Holland.

A native of Amoy, China, Mr. Ong Tjen Hong came to Java when quite a boy. He is vice-president of the Chinese Chamber of Commerce, and is the only Chinaman who is a member of the "Stroohtedenveem." His election to this somewhat exclusive Dutch society is significant of the high esteem in which he is held by the European community of Sourabaya. On his retirement from business, it is hoped that his eldest son, Mr. Ong Cheng Sam, who has received a good education in the English, Dutch, Chinese, and Malay languages, will take up his father's duties. He has travelled, and is well fitted by experience and education for the important place he will be called upon to fill.



RESIDENCE OF THE TIK GWAN, LIEUTENANT OF CHINESE IN SOURABAYA.

firm exports sugar and tobacco and imports rice, dried fish, tobacco, and general Chinese produce. Chief attention, however, is paid to the rice trade.

The partners in the enterprise are Mr. Tjan Tiauw Tjwan, the manager of the business in Sourabaya, Mr. Lie Gim Siu, who superintends the firms interests in China, and Mr. Lim Liong Hwa, whose residence is in Malang. Mr. Tjan Tiauw Tjwan came to Java some twenty-two years ago, and is one of the best-known Chinese business men in Sourabaya. He is a member of the Chinese Chamber of Commerce.

BO LIEM KONGSIE.

THE owners of a large forest of fine trees, the Bo Liem Kongsie confine their whole

years ago by Mr. Ong Tjen Hong, under whose personal control it has remained ever since. Large quantities of sugar, besides coffee, tea, and other products of Java, are exported annually; and a big trade in rice is carried on with Rangoon, Siam, Saigon, and other rice-producing centres of the East. From the inception of the business a large connection has been maintained with British India, but now the sphere of his operations has widened so considerably that Mr. Ong Tjen Hong has appointed agents in all parts of China, Japan, and Europe in the interests of his export trade. His transactions in imports and exports amount in value to upwards of G. 6,000,000 annually.

Mr. Ong Tjen Hong has recently purchased a sugar factory in the Malang

LIM TJHING HOO.

THE firm of Lim Tjhing Hoo have been trading in petroleum and carrying on business as piece-goods, rice, and sugar merchants in Sourabaya for the last quarter of a century. They are agents for the Asiatic Petroleum Company, but all their interests are confined solely to Netherlands India. The proprietor of the business, Mr. Lim Tjhing Hoo, was born in Sourabaya and is the descendant of a well-known Chinese family which has been resident in the Dutch East Indies for many years past.

TIO SIEK GIOK.

THIS firm, established in 1896 by Mr. Tio Siek Giok, have already been accorded a

large amount of patronage. As provision, wine, and spirit merchants, they not only do a large trade locally but carry out important contracts with the railway and military canteens in East Java, and with the local asylum, for the supply of refreshments and provisions respectively. The stock maintained by the firm is valued at half a million guilders, while their annual "turn-over" amounts to one and a half millions.

Mr. Tio Siek Giok is also the owner of a fine estate named "Djai," 2,000 feet above sea-level, situated near Modjokerto, in the Sourabaya district. It comprises 1,500 acres of fertile land, all of which is under cultivation, producing coffee, cocoa, pepper, and kapok.

Among the various offices Mr. Tio Siek Giok holds in Sourabaya are those of presi-

Choy, however—a Cantonese firm established in Sourabaya a quarter of a century ago to be considered among the leading Chinese houses can hardly be disputed. It has considerable capital and branches in Singapore and Hongkong. Originally the trade of the Sourabaya office was almost exclusively confined to imports, but all this has been changed. The export trade was found more profitable, and recently attention has been centred upon this department. Now very large quantities of sugar, ground-nuts, and oil are sent out of the country each year by this firm.

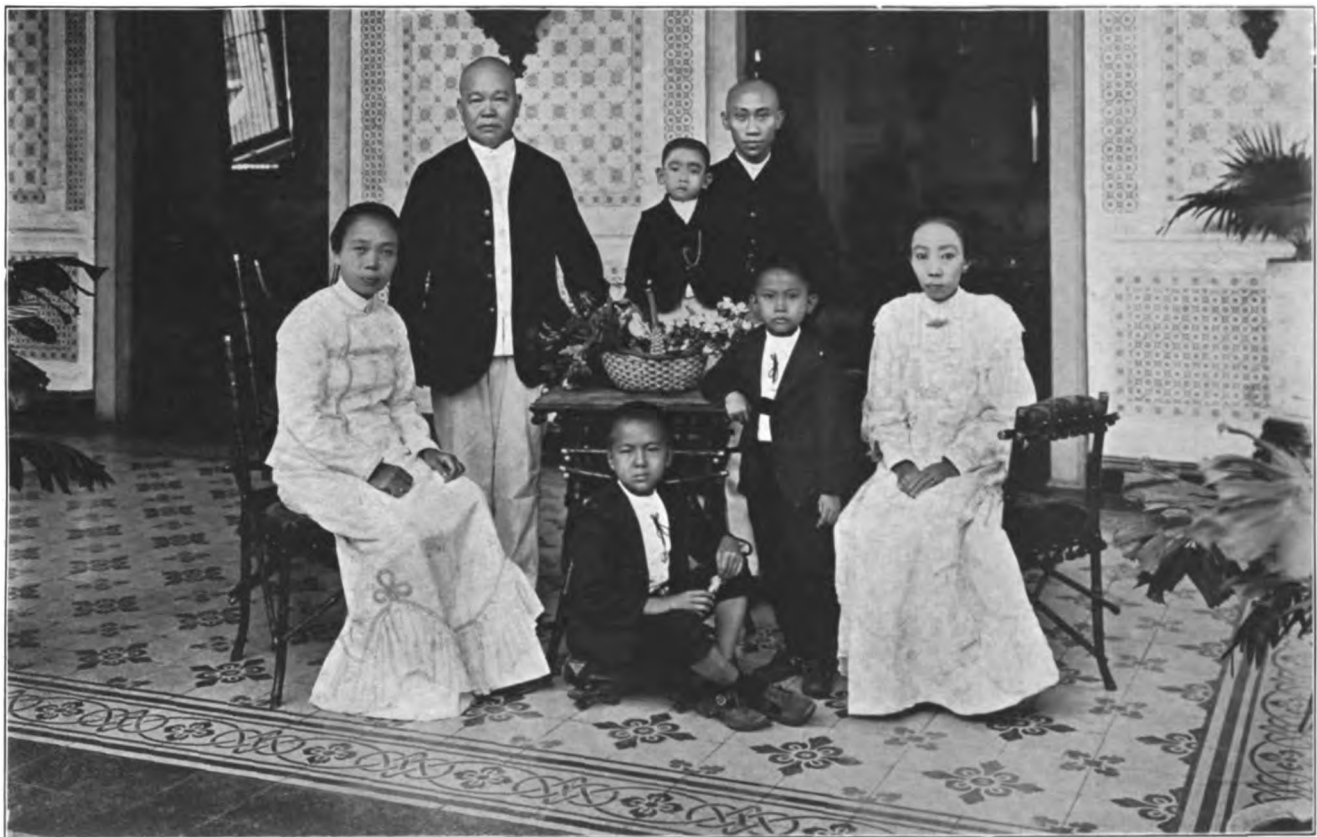
BIE TJANG & CO.

THIS firm was established in Sourabaya in 1902 by Mr. Oie Kang Ting, the present proprietor and manager, and his brother,

both of whom are members of the Chinese Chamber of Commerce. The firm employs a staff of twelve, exclusive of coolie labour.

TAN TJOEN GWAN.

THE firm of Tan Tjoen Gwan was founded in 1873 by Tan Tjoen Gwan, the father of the present proprietors, Tan Ping An, Tan Ping Liang, and Tan Ping Lee. The business is a large and flourishing one, and is conducted with great enterprise, most of the goods sold, including general provisions, wines and spirits, crockery, and hardware, are imported direct, very considerable quantities being despatched to the Moluccas, Borneo, and adjacent islands, where the brothers have established important trade connections.



GO HOO SWIE AND FAMILY.

dent of the Chinese Club and of the Funeral Society. He is a member of the Chinese Chamber of Commerce and a strong supporter of the Reform Party.

KWONG SANG CHOY.

CHINESE enterprise is well represented in all parts of Netherlands India, but perhaps it is most strikingly manifested in Sourabaya, the commercial capital of Java. In the centre of the sugar industry large and flourishing firms abound, but their ramifications spread away in so many directions, and the various branches are conducted under so many different names, that it is difficult to say definitely which have the largest resources or the greatest influence on the trade of the country. The claim of the Kwong Sang

who has since retired. Its trade, which is chiefly in prints and piece goods of English manufacture, extends throughout Java and the adjacent islands. Mr. Oie Kang Ting was born in Java. His ancestors came to Netherlands India from China some five generations ago.

OEI WIE KHEE & CO.

AMONG the various important agencies held by Oei Wie Khee & Co. in Sourabaya are those for the "Shell" and the Royal Dutch Petroleum Companies. The firm is a well-known and wealthy one, which carries on a very considerable piece-goods trade, and deals exclusively in European manufactures. It was established in 1865 by Mr. Oei Wie Khee, the father of the present proprietors, Messrs. Oei Kang Hwai, and Oei Kang Yan,

Mr. Tan Ping An, the eldest partner is a member of the Chinese Chamber of Commerce, a committee-man of the Chinese Schools, and a keen supporter of the Young China Party.

HAP LIE HOO & CO.

DURING the past fourteen years Messrs. Hap Lie Hoo & Co. have held their place among the prominent Chinese firms participating in the extensive export trade which Java carries on with Europe, America, and the Far Eastern countries. But in addition to exporting coffee, sugar, and the general produce of the island, they import large quantities of rice, and have established agencies for the furtherance of their many and varied interests throughout Java and the Moluccas.

The founder of the business, Mr. Tjio Poo Liauw, a native of Amoy, China, arrived in Java twenty-two years ago. He has taken a prominent part in local Chinese affairs, and is an ex-vice-president of the Chinese Chamber of Commerce, and a member of the committees for the Burial Society, the Chinese Schools, and the Chinese Church. Mr. Tjio Poo Liauw is a strong supporter of the Reform Party.

DJIE HONG SWIE.

ALTHOUGH quite a young man, Mr. Djie Hong Swie has many commercial responsibilities. He not only has charge of two shops belonging to the members of his family, but is himself the owner of five others, the stock of which—with the exception of two dealing in piece-goods—comprises general merchandise. He carries on a large trade in Chinese manufactured goods, which are imported direct, and has agencies throughout the whole of East Java.

Mr. Djie Hong Swie is a committee-man of the Chinese Chamber of Commerce, and he is greatly interested in the Chinese Reform movement. Born in Foochow, he came to Java in 1886, and has proved himself a very generous supporter of many charitable organisations. His children, of

whom there are six, are all being educated in accordance with European principles.

HANDEL MAATSCHAPPIJ "DJOE TIK."

FROM the day of its establishment in 1885 the business of the Handel Maatschappij "Djoe Tik" has seemed to thrive and progress. The scope of the firm's operations have been ever widening, and now, in addition to their offices in Sourabaya, they have flourishing branches in Hongkong, Singapore, Saigon, and Bangkok, and have recently purchased a small line of steamers operating between these ports. The firm are general importers and exporters, but chiefly they export sugar and import rice. They have their own rice mill in China and another in Sourabaya where locally-grown rice is prepared for the Netherlands India market.

Messrs. Na Kim Seng and Tjio Bio Sioe are the two controlling partners in the business. The former has charge of affairs in Singapore, while Mr. Tjio Bio Sioe is resident in Sourabaya.

GIOK KIE.

THE Chinese firm of Giok Kie has been in existence in Sourabaya for only ten years, but the proprietor of the business, Mr. Tan Ma Ho, has been engaged in the trade of Java for double that length of time. He comes from

a family that is well known in Chinese commercial circles, and he himself has won a high reputation for business integrity both among his own countrymen and Europeans. The firm, which imports rice and exports all kinds of Java produce, maintains a staff of buyers who visit all parts of the country, and annually transacts business representing some millions of guilders.

Mr. Tan Ma Ho is a member of the committees of the Chamber of Commerce and of the Chinese Reform School.

GO HOO SWIE.

As general exporters and importers this firm was established in 1880 by Mr. Go Hoo Swie, its present proprietor. Coffee and sugar are exported to China, the Straits Settlements, and British India, while rice, matches, and flour form the chief articles imported. The firm also carries on an extensive trade in native products in the interior of Java, its trade mark, "Yan Tjwan Eng," being exceedingly well known.

Mr. Go Hoo Swie, who is a native of Amoy, arrived in Java in 1874. He is a member of the Advisory Board of the China Life Assurance Company, Shanghai. In Sourabaya he holds the office of president of the Confucian Temple, and is a member of the Chinese Chamber of Commerce.





RIVER AT TANDIONG POERA, LANGKAT.

SUMATRA.

SECOND in importance to Java of the Dutch Indian possessions on account of its far smaller population and much less developed condition, but far larger in size than that principal dependency, is Sumatra. This lozenge-shaped island of very irregular contour on the eastern side, extends from the western end of Java, from which it is separated by the narrow Sunda Strait, in a north-westerly direction from just below five degrees south to just above five degrees north of the equator. It is surrounded by numerous islets, and off the south-east coast are the larger islands of Banca and Billiton. Malacca lies to the north-east; Singapore is situated due east across the Straits of Malacca from a point about half way down the eastern coast. Sumatra is thus favourably situated as regards intercourse with the rest of the world by way of the great port of call of British Malaya. Eastward beyond Singapore and across the Strait of Karimata lies Borneo. Sumatra is the second in size to Borneo of the islands of the Sunda group, with an area, including that of the neighbouring islets, of 178,000 square miles. But its population, numbering some 34 millions, is only a ninth of that of Java, the density per square mile being about twenty. Of the resident inhabitants of the island some 5,000 are Europeans, about 100,000 are Chinese, 2,500 are Arabs, and 7,000 are foreigners of other nationalities. The rest are natives.

It is generally agreed by geological authorities that Sumatra is in an out-crop of the Arakan submarine mountain chain, the strata being similar in constitution and plication with that of other emerged portions of this range. Sandstone, limestone, and slate form the principal geological constituents, and the older and younger Tertiary formations are well defined. The foldings in the strata have been caused by volcanic eruptions which, in

the course of ages, have repeatedly altered the surface of the island, the more recent outbreaks, geologically speaking, having covered the older rocks, closed in valleys, and diverted the river courses. In the central portion of the island are several volcanoes, the loftiest of which have an altitude of about 10,000 feet. The various parts of the

try being still in a savage state, the large trees, which in Java are not found below an altitude of 3,000 feet, in Sumatra grow densely even on the coastal levels. The general character of the country is rugged and mountainous, with numerous rivers cleaving their way among the hills along sharply denned valleys of great length. Most of



GOENANG RINTEH WATERFALL, DELI.

island are geographically differentiated in a marked degree; for, while in the north and the south are highland plateaux with an altitude of 4,000 feet and lightly timbered, the eastern and western parts consist mainly of plains traversed by large rivers and thickly covered with forests. So much of the coun-

try have their sources in the ranges running north and south on the western side of the island and find their way to the east coast. The Djambi, the longest of the rivers finding their outlet on this side, is navigable for about 500 miles, the Moesi and others being accessible for

light craft for lesser distances up to 400 miles. From the nature of the country, through which they pass, however, the rivers are far from being easy waterways, and both intimate local knowledge as well as great skill in boat management are necessary for successful navigation of their courses. In this branch of work, large numbers of the natives are employed. There are also some lakes of considerable size in different parts of the island, the largest of which is Lake Toba in the north-east.

Situated on the equator, Sumatra naturally possesses a warm climate, but, owing to the elevation of the greater part of the island, the annual range of temperature, which is remarkably free from variation, is from 77° to 81° F. only. The rainfall, principally brought by the north-west monsoon, varies according to location, amounting to 139 inches

fostering climate, they are able to obtain means of subsistence without much labour. The central volcanic region, consequently, is the most thickly populated. A large number of plantations are cultivated by Dutch proprietors, most of the holdings having been farmed out by native chiefs. The principal cultivable products are coffee, tobacco, spices, and condiments of various kinds, principally pepper; and other exports are gum, copra, bamboo cane, and gambier. Besides coal, the mineral products of the country include petroleum, while extensive tin deposits have been discovered on the island of Singkep, off the east coast.

The principal settlements on the east coast are Palembang in the southern portion and Medan in the northern. The latter is the seat of the Government in this division, the Sultan and the Dutch Resident having their

This disturbed condition of things, however, being confined to one small portion only of the island, has not retarded progress in other parts, or appreciably affected the rest of the natives. Hemmed in as they are, and with the cordon gradually being drawn closer, it is only a matter of time for the Achinese to be forced into submission. Outside the affected region the island is governed in the same fashion as Java and the other Dutch possessions, being divided into residencies, each of which is in the charge of a Dutch resident. The native princes are thus controlled; while allowed the title and appearance of rulership, they are shorn of all real power.

Not perhaps possessing quite the surpassing and luxuriant beauty of Java, Sumatra, nevertheless, can boast of many attractions for the tourist who can appreciate scenery of rugged grandeur and is not afraid to



A BATAK VILLAGE.

annually in the south-east, and 184 inches at Padang on the west coast. This town, which is the capital of this division of the island, and has a population of about fifty thousand, is the centre of the most civilised part of the island, there being some two thousand European residents in this part alone. A State Railway connects Padang with the Ombilin coalfields and the surrounding country inland; and good roads have been made in and about this region and the several other considerable settlements on the west coast. The natives are not a town-dwelling folk, but prefer the rural pursuits of agriculture, fishing, cattle-rearing—for which the lightly timbered highlands are eminently suitable—timber-felling, and river navigation, to the occupations of the street or mart or factory; and from the fertile volcanic soil, under a

principal residences here. Medan is connected by railway with the port of Belawan-Deli. In this part of the island several British planters are engaged in growing tobacco.

As long ago as 1605, the Dutch East India Company first established trading relations with the princes of Sumatra, which, in the course of years, have led to this island being included in the possessions of Holland. But even at this day the island cannot be said to be entirely subdued, the local Government being still engaged in what appears to be an almost interminable warfare with the natives of the Achin region towards the north-west, who, in their inaccessible mountain fastnesses, are able to maintain a desultory struggle of the guerilla kind with the Government troops despatched for their subjugation.

venture off the beaten track in search of it. Some of the upland country of the west coast, particularly about Padang, will challenge comparison with any scenes in the eastern seas; while on the eastern side the water villages (kampongs) on the Moesi river, in the Palembang Residency, form centres from which delightful river trips may be undertaken through the richly wooded coastal region.

Among the numerous smaller islands included with Sumatra is that of Nias, off the north-east coast, the inhabitants of which are a distinct race from all their neighbours, with peculiar characteristics that have given rise to much speculation. While not cannibals, they are addicted to head-hunting; and another curious fact is the large number of albinos among them.

EAST COAST OF SUMATRA.

THE Residency, "the East Coast of Sumatra," is governed by a resident appointed by and under the direct orders of His Excellency the Governor-General. An assistant resident, who, in the absence of his superior, becomes the chief administrative officer, has charge of the general official business, while a secretary, with the necessary staff under his supervision, is responsible for the ordinary routine work of the Government.

The province is divided into the following districts and sub-districts :—

1. The district of Deli, under an assistant resident, consisting of three sub-districts under controllers ;
2. The district of Langkat, under an assistant resident, consisting of two sub-districts, of which one is directly governed by the assistant resident and the other by a controller ;
3. The district of Asahan, under an assistant resident, consisting of three sub-districts, one of which is directly governed by the assistant resident and the two others by controllers ;
4. The district of Serdang under a controller ;
5. The district of Padang and Bedagei under a controller ;
6. The district of Simeloengoen and the Karo lands, under an assistant resident, consisting of two sub-districts, of which one is directly under the assistant resident, and the other under a controller ; and
7. The district of Bengkalis, under an assistant resident, consisting of three sub-districts, of which one is directly governed by an assistant resident, and the other two by controllers.

The Resident, the highest Government official in the province, is also the Chief of the Police. The military power is represented by about two hundred soldiers with

assistant residents and controllers hold magisterial powers over the native subjects of the Government, and act as representatives between the Government and the native princes. With the exception of the island of

Langkat, and Koewaloe ; while the rulers of Tanah, Djawa, Si Antar, Panci, Raya, Dolok, Poerba, and Si Lima Koeta are known by the title of "Radja" or "Tochan." The native chiefs of the Karo lands are styled



TIGER SHOT NEAR DELI.

Bengkalis, which was conceded to Netherlands India in 1873 by a former Sultan of Siak, and of a few small pieces of

"Sibayak," and those of Singingi and Oeloe Tesso and the Batoe Bahra lands, "Datoe." Kota Pinang is under a "Yang di Pertoean," and Pelalawan under a "Tocankoe Besar." Goenoeng Sahlan (Kampar Kiri) is ruled by a "Yang di Pertoean," while "Radjas" are in authority over Ampat Kota Raban Kiri, Koento, Kepanoehan, and Tamboesai.

The early history of these places is of very little importance, with the exception of that of Siak Sri Indrapoera, which formerly was one of the most powerful native states in Sumatra, its authority extending along the whole east coast from Pelalawan to the borders of Tamiang (Achim). The royal family of Siak was, furthermore, highly honoured among the native princes owing to the fact that, by matrimonial alliances with Arabs, its descent could be traced back to the Prophet. The Netherlands East India Company made a treaty of friendship with Siak as early as 1745, a treaty that was renewed in 1761 and 1782. In 1851, the kingdom was made over to the Netherlands India Government, and has since been held by the Sultans as fiefdoms. At the time this arrangement was entered into, the old influence of Siak was diminishing in the western dependencies of Panci, Bila, Koealoe, Asahan, the Batoe Bahra lands, Serdang, Padang, Bedagei, Deli, and Langkat, but, nevertheless, all these places were lawfully included in the treaty and came under the sovereignty of the Netherlands. The relations between Siak and the Netherlands India Government were further defined in a political contract drawn up and ratified in 1858, and this contract, of course, is binding for the



BRIDGE OVER THE SOENGEI GERPA.

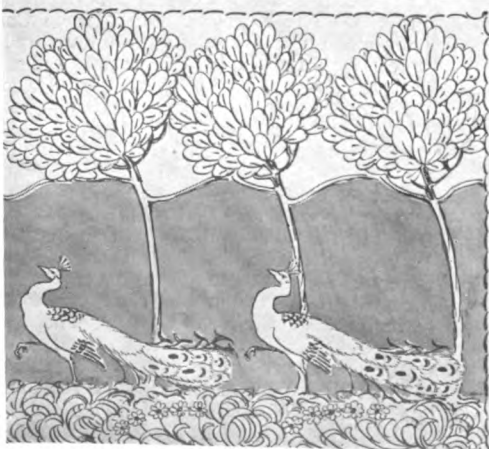
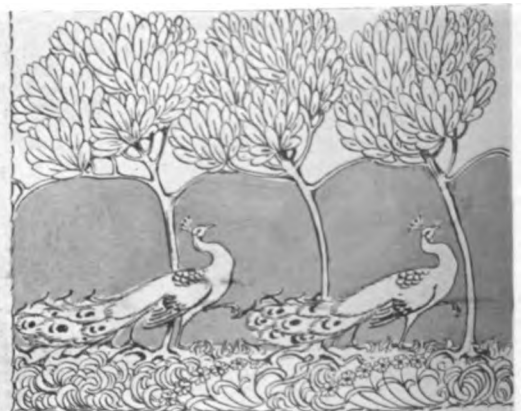
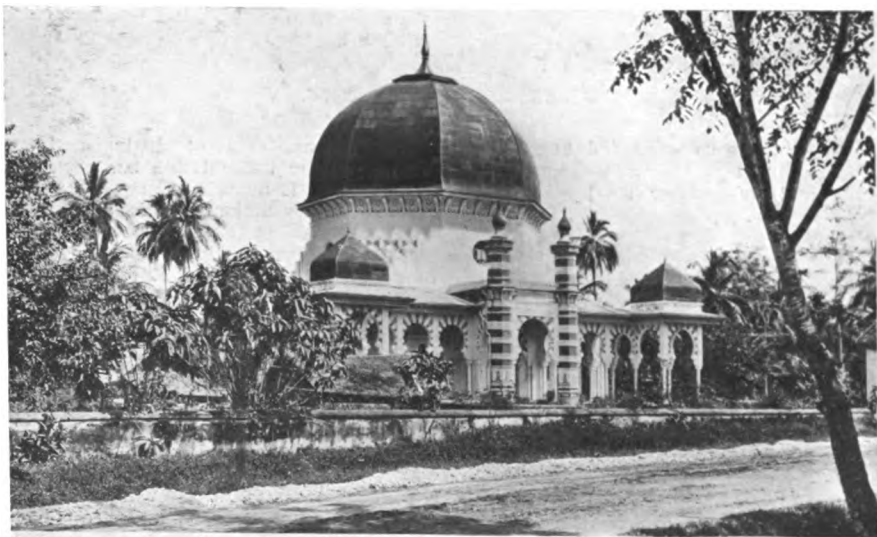
ten officers, under the command of the Provincial Military Commander, who holds the rank of captain. The troops are divided into two garrisons, one at Medan, the other in Seriboe Dolok, in the Karoe lands. The

ground where Government establishments are situated, the whole residency consists of self-governing countries. The title "Sultan" is borne by the rulers of : Siak Sri Indrapoera, Asahan, Deli, Serdang,



1. WOOD CUTTING IN VIRGIN FOREST.

2. ROAD MAKING IN DELI.



1. THE MOSQUE, LABOEAN (DELI).

2. THE MOSQUE, TANDJONG POERA (LANGKAT).

dependencies referred to above. The rulers of these places, however, were unwilling to submit to the arrangement. They desired to place themselves under Dutch protection, but directly, and not as vassals of Siak. This



EAST COAST OFFICIALS.

1. H. J. MATTHES (President of the Court, Medan).
2. E. G. MAIER (Assistant Resident, Medan).
3. O. M. DE MUNICK (Controller, Buidjey).

unwillingness for years prevented the regulation of relations between these states and the Netherlands Indian Government, but, finally, in 1884, the problem was solved through Siak being induced by certain considerations to resign her sovereignty over them. The vassal states of Siak thus came under the direct jurisdiction of Netherlands India, and agreements have been entered into with them on the lines of the contract made with Siak in 1858, so that the whole of the East Coast of Sumatra is now under regular government.

Siak is now but thinly populated, and, although very large, is of but little importance from an economic point of view. The vassal states, on the other hand, have increased greatly in importance—owing chiefly to European energy as expressed in the cultivation of tobacco and rubber, and the development of the petroleum industry—and, in consequence, the rulers have become personages of more consequence than heretofore, and their authority within their own territories is fully recognised. In 1906 and 1907 all agreements with the native states



**J. BALLOT, RESIDENT OF MEDAN
DELI, AND MRS. BALLOT.**

were finally revised and uniform contracts made with the six Sultanates and Pelalawan. These contracts contain thirty-six articles, of which the following are the most important:

1. The declaration that the country is Netherlands Indian territory, and the recognition of her Majesty the Queen, represented by the Governor-General, as Sovereign.

2. Promise of fealty, obedience, and submission to the Government of Netherlands India and its representatives.

3. The acceptance in feoff of the country from the Netherlands Indian Government.

4. Prohibition from forming connections with foreign powers.

5. Promise to promote the interests of the country and of the people.

6. Prevention of piracy on the seas and rivers.

7. Prohibition of slavery with enforced labour (*pandeling*—a kind of serfdom); and

8. The establishment of provincial funds or treasuries for the receipt of all State income, from which each State receives its share.

Such an extensive treaty or contract was unnecessary in the case of the other States, whose rulers were required to make only a

of Pertjoet, Denci, Perbaengan, Bedagei, and Padang. Until Sultan Basjar Sjah took over the reins of government, however, no attempt was made to cultivate the land, except for a little rice and maize. This prince, who had travelled extensively with the object of increasing his knowledge, introduced the cultivation of pepper, as the result of a visit to Achin, and young "nipa" palms from Kwaloch. The spot chosen for the pepper gardens was close to Kampoeng Pertjoemboekan, and was given the name of Kotta Achin, which it retains to this day. The palms were planted at Roegemoek, Ayer Hitam, and several other places in the same district. This latter cultivation has been of great benefit to the natives of Serdang, for before its introduction they roofed their houses with "palas Serdang" leaves, and "alang-alang," whereas now the "nipa" has entirely taken their place and is infinitely more satisfactory.

During the time of Sultan Bassaroeddin, an attempt was made to cultivate the nutmeg tree, and to grow tobacco. The nutmeg



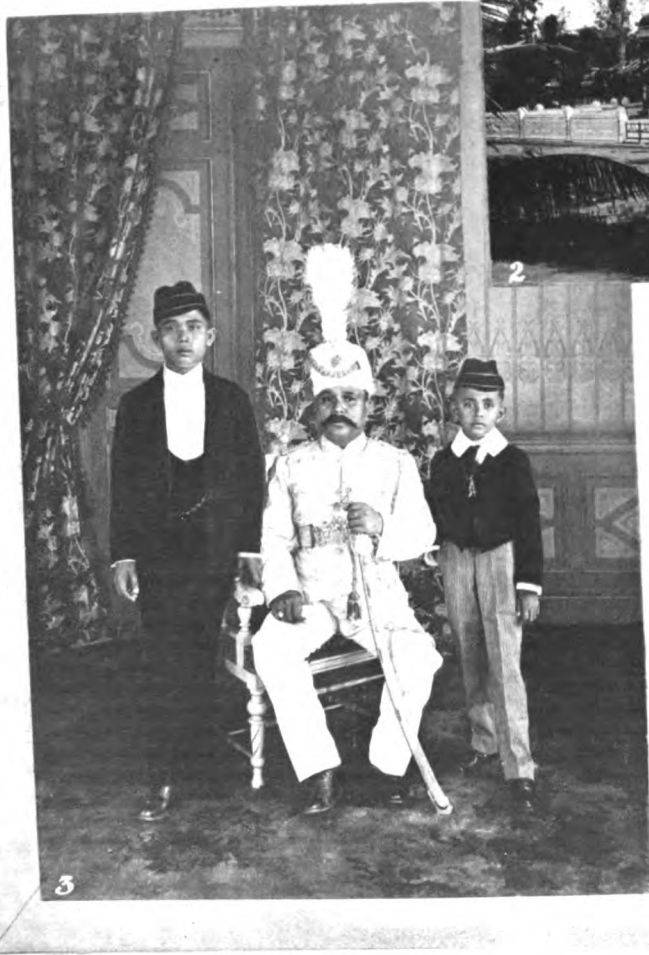
CHINESE TEMPLE AT KLOEMPANG, DELI.

short declaration, consisting of three articles, whereby they promised submission and obedience to all commands. This form of contract, however, still allowed a certain amount of self-government. Generally it may be said that the aim of the Dutch authorities has been to bring the privileges and responsibilities of the subjects of the self-governing States as far as possible into uniformity with the privileges and responsibilities of the natives residing in other districts.

SERDANG.

THE following narrative is translated from a short history written by a high Malay official:—During the reign of Sultan Djoendjoengan and his successor, Sultan Djoehan Sjah, the Sultanate of Serdang extended from the East Coast of Sumatra as far west as the lake of Toba, and included the province

gardens proved unsuccessful on account of disease attacking the young plants, but under the direction of several Europeans the tobacco plantations flourished. It was at this period that Serdang was deprived of its dependencies Pertjoet, Denci, Bedagei, and Padang, which were given to the Sultan of Deli; but on the accession of the present ruler, Sultan Suleman, to the throne, the province of Denci was returned, and peace and prosperity have been the keynote of the reign. The land is being fully developed, and large and flourishing coffee, tobacco, and rubber estates are now in the hands of several European companies. The natives share in the prosperity and own tobacco-fields, orchards, and vegetable gardens, and are contented and well cared for. The Sultan himself recently sold a large rice estate for Fl. 110,000, and still owns a thriving estate at Perbaengan. He was also until 1894—when they were sold to the Amsterdam-



1. PALACE OF H.H. THE SULTAN OF LANGKAT. 2. MOSQUE AT TANDJONG POERA.
3. H.H. THE SULTAN OF LANGKAT AND HIS TWO SONS.

Serdang Tobacco Company—the joint proprietor, with Mr. Marinus, of the three tobacco estates—Simpang Ampat, Melate, and Titian Oerat. Until the opening of the Deli-Sumatra Railway, Kwala Serdang, Perbaengan, and Denei were places of some size and importance, and were frequently visited by large ships and “tongkangs” from Penang; but now they are declining rapidly.

One of the favourite picnic resorts and beauty spots in Serdang is Telok Belanga, an anchorage in Kwala Perbaengan, about 600 metres in breadth and 1,200 metres in length.

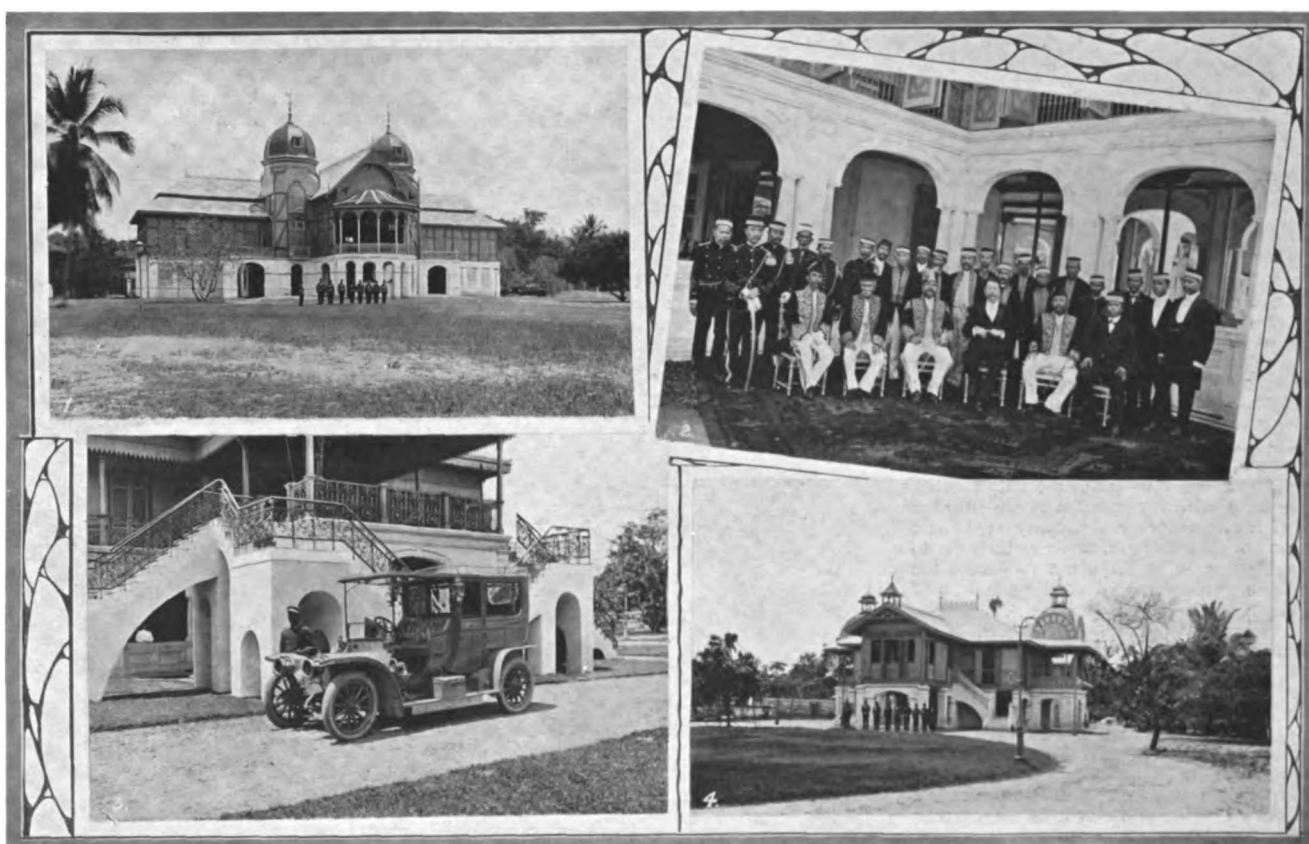
DELI PLANTERS' ASSOCIATION.

THE East Coast of Sumatra owes everything to tobacco, and to the enterprise and energy

liabilities of both the employers and the contract labourers on the estates. A petition was sent to the Government in 1875, and, five years later, the Coolie Ordinance, some details of which appear elsewhere, was promulgated. Method and order have been introduced into the affairs of contract coolies. A system of registration has been established, and it was decided that the so-called free Chinese “kongsees,” i.e., gangs of labourers under their own foremen (tandils) should not be employed; that certificates should be given to dismissed coolies, and that no coolie, without such a certificate, should be re-engaged. Furthermore, a system of passes was introduced, the headmen of the Chinese providing “free” Chinamen with passports so that the planters might exercise some control over their labourers. When the prices for tobacco fell, efforts were made to reduce the cost of production, and the advances which were to

Association between 1877 and 1880. The coolie contracts, however, have been a very fruitful source of discussion between the planters and the Government. The wages of the labourers have been adjusted several times; rice has been supplied to them at reduced prices, and the value of the dollar was fixed at two guilders in order that the coolies coming from or returning to Java should not lose by a falling exchange. Every encouragement has been given to the coolies to invest their savings in the Post Office Savings Bank.

The important question of the direct immigration of the Chinese from Swatow to Deli has been satisfactorily settled owing to the persevering efforts of the Association, and now an ever-increasing stream of immigrants enables the planters to obtain the labour they require. The young coolies direct from China, moreover, are found far more tract-



1 and 4. TWO OF THE SULTAN OF LANGKAT'S PALACES.
3. THE SULTAN'S MOTOR CAR.

2. THE SULTAN WITH HIS STAFF AND THE ASSISTANT RESIDENT.

of those who have been and still are engaged in its cultivation. In Deli, the planters take first place, and it may be said that they have ruled as well as developed the country. Once the tobacco industry was fairly started it was not long before they combined to protect and advance their interests, and the Association which was then formed has during the past thirty-five or forty years not only done a great deal towards fostering the tobacco trade but has exercised very considerable influence indeed on the general welfare of the native inhabitant of the district. The first cause for united action among the planters came with their desire to secure a coolie ordinance setting forth in plain language the rights and

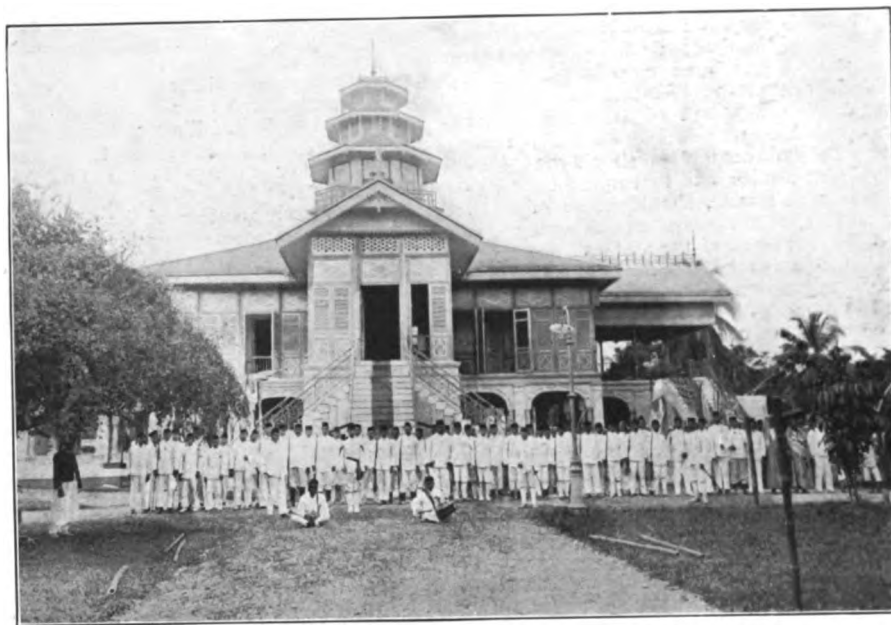
be made to new contract coolies were fixed at a certain rate, so that one employer would be unable to entice away another's labourers by offering higher sums; the prices to be paid for the tobacco of the field labourers were also fixed. It was the Association, too, which at last decided not to purchase dry tobacco from the natives. In the early years, Chinamen and Malays competed with the European planters, and Deli tobacco lost its reputation, and thefts of tobacco were frequent. Now the tobacco grown by the natives is prepared only for the native markets. These reforms and regulations for the raising of the standard of tobacco cultivation generally were brought about by the

able than those engaged locally or from the Straits Settlements. The boats which are specially chartered by the Association for the run between Swatow and Belawan-Deli, go direct to China four times a year in order to enable the coolies to return home with their earnings as speedily as possible.

In 1870, a board of control, styled the Planters' Committee, was formed, consisting of three members, with an agent in Langkat and one in Serdang, and since 1880 the board has acted as the representative of the planters and has worked strenuously to advance their interests. Between 1880 and 1890, barn fires were common, and the committee, by continually bringing the matter to the notice of

the officials, was able in 1892 to persuade the Government to take the necessary steps for preventing the evil. Fires in the "lalang"

proved and largely increased police force in the districts is also the result of the representations the planters, through their



THE SULTAN OF LANGKAT'S RIFLE CLUB.

grass, with which large plots on the estates were overgrown, also being frequent, and the grass itself being ruinous to the soil, efforts were made to afforest the fields which had been used for tobacco cultivation. Such afforestation was difficult, because when the tobacco harvest was finished the ground was usually given to the natives for planting rice, but the committee, after considerable difficulty, were able some ten years ago to get a regulation framed preventing the natives from felling trees which covered a space of nine square feet. Another specially fortunate decision of the committee was the one to which they came in 1896, not to accept the services of "noempangs"—roving bands of Chinese labourers who worked temporarily on the estates usually without contracts. Many bad characters were found among the "noempangs," and now the planters only accept the services of those coolies who will sign on for at least a year, so that all coolies are thus included on the regular staff of an estate.

A botanist was engaged by the Planters' Association to study the cultivation of tobacco in 1894, and a well-equipped laboratory has since been erected and scientists engaged at the Association's expense to continue still further the research work and to bring the tobacco plant to as high a level of perfection as possible. A portion of the Horticultural Garden at Buitenzorg has also been reserved for the same purpose. The planters contributed privately towards the establishment of the Deli Experiment Station, and still supply a large proportion of the funds needed for its upkeep, while the Association as a body started the scheme for the foundation of an asylum for immigrants who were too old and weak to be any longer employed on the estates. In 1881, when the concession for building the Deli Railway was granted, it was the intention to form a company whose shareholders should be members of the Association, but afterwards a separate company was formed. The existence of the railway, however, may justly be said to be due to the steps taken by the Association, and the im-

organisation, have made to the Government. The committee is often consulted regarding many divergent subjects, such, for instance,

India, the establishment of new kampongs, the division in classes of the inhabitants, shortening of the time permitted for gambling, the introduction of the Straits Settlements dollar and the Netherlands Indian coinage, the founding of an industrial school, the best method of fighting the plague in 1905, the establishment of a leper asylum and a leper ordinance, the alteration in the quarantine rules under which a quarantine station is to be built by the Association in 1909 at the cost of Fl. 100,000, and so forth. In many ways the Association has given valuable assistance to the Government, while its usefulness to the planters can scarcely be over-estimated.

PLANTERS' BOND, EAST COAST OF SUMATRA.

THIS Association, which has for its object the protection of the interests of both proprietary and working planters, was founded on December 20, 1904, with the following committee:—G. Miessner (president), J. H. Marimus, J. Kollmus, H. Morel, and G. Lassen (secretary). The present committee comprises: J. J. Wytema (president), A. Runge (vice-president), H. Morel, and Aug. le Lorrain (secretary); while the members of the Association are: Amsterdam Langkat Company, Th. L. A. Runge; Ramoenia Cultuur Maatschappij, Joseph Glas; Holland Sumatra Tabak Maatschappij, Langkat Tabak Maatschappij, Amsterdam Padang Company, Martin & Sandel; Amsterdam Senembah Maatschappij, Serdang Tabak Maatschappij, Shanghai Sumatra Tobacco Company, Sumatra



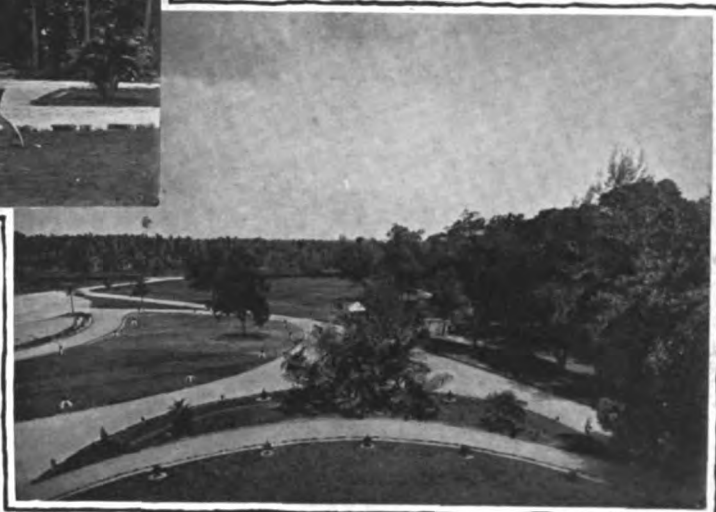
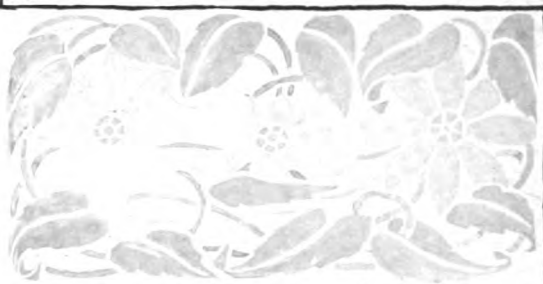
PROMINENT REPRESENTATIVES OF THE TOBACCO INDUSTRY ON
THE EAST COAST OF SUMATRA.

1. H. J. BOOL, Bachelor-at-Law (Secretary of the Planters' Association, Medan, Deli).
2. L. WEIGAND (Senembah Tobacco Company).
3. K. KRUGER (Medan Tobacco Company).
4. F. DE FREMERY (Deli-Batavia Tobacco Company).
5. J. VAN Vollenhoven (Deli Maatschappij).

6. D. W. KAPPELLE (Amsterdam-Deli Maatschappij).
7. R. MACLEAN (United Langkat Plantations, Limited).
8. P. HANSEN.
9. J. J. DE KNOKE VAN DER MEULEN (Deli-Cultuur Maatschappij).

as the grounds to be given to the natives, agricultural possessions for people of Eastern origin other than natives of Netherlands

Plantage Maatschappij, H. Roodenburg, the proprietors of the Tandjong Poera Estate, and the Tjinta Radja Tabak Maatschappij.



PALACE AND GARDEN OF H.H. THE SULTAN OF SERDANG.



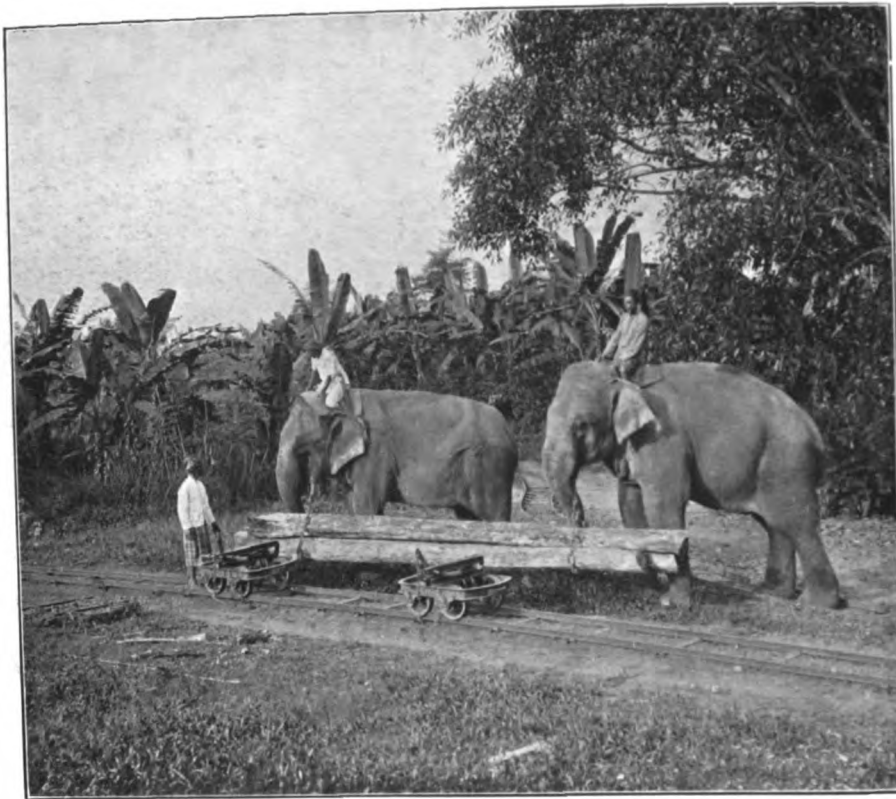
VIEWS OF THE HARBOUR AT PERBOEANGAN, SERDANG.

THE LABOUR QUESTION.

THE problem of how to obtain a sufficient supply of labour for the development of

homes in China. In 1885 the planters arranged to pay not more than \$50 per coolie to the brokers, but as the brokers refused to recruit the coolies at this price

years later, therefore, the agreement was cancelled, and the amount payable to the coolie brokers was left to the option of the parties concerned. The direct result was a very large increase in the prices paid, until at last as much as \$120 was paid to the brokers for each coolie supplied, and the value of the dollar then was G. 2.50 Dutch money. It was such excessive charges as these, combined with the possibility of obtaining a better class of labourer, which gave strength to the movement to do away altogether with the 'middleman.' Five large tobacco companies took the lead, and the Government permitted Dr. J. J. M. de Groot, who was going to China as Chinese interpreter for the Dutch Government, to accept a commission from those companies to bring about direct emigration from China to Deli. Dr. de Groot left for China in June, 1887, and about a year later, after tedious negotiations and much opposition, the permission of the Viceroy of the Kwangtung Province was obtained for the transport of coolies from Swatow. As soon as the preliminaries had been completed, the Planters' Association took over all further responsibility from the five companies referred to, and a special Immigration Bureau was organised and contracts entered into with a shipping company at Hongkong for a regular transport service. Owing to the opposition of the Straits coolie brokers, the Deli Immigration Bureau had for a time to remain content with small results for their labour, but gradually the Deli line came into favour, and each year saw an increase in the number of coolies arriving direct from Swatow, and a corresponding diminution of labourers via Singapore and Penang. Many of the Chinamen who had worked on the tobacco estates and returned to their homes with their savings came back again with their families and friends. The repatriation



ELEPHANTS WORKING ON AN ESTATE.

their estates has confronted the European planters on the East Coast of Sumatra since the very commencement of the tobacco cultivation. When the natives—as is rarely the case—are induced to work, their energy is very spasmodic. Their whole nature seems to revolt against constant application to one particular routine. As a consequence, workmen have always had to be imported, and in 1908 there were 116,180 contract coolies working on the estates, including some 60,000 Chinese and 40,000 Javanese, the remainder being Klings and people of various nationalities. When it is considered that for about two-thirds of the Chinamen the cost in transport alone is Fl. 115 each, and that for every Javanese coolie a sum of Fl. 70 has to be paid before he does a stroke of work, it will be realised how great the demand for such labour must be to justify so high an expenditure.

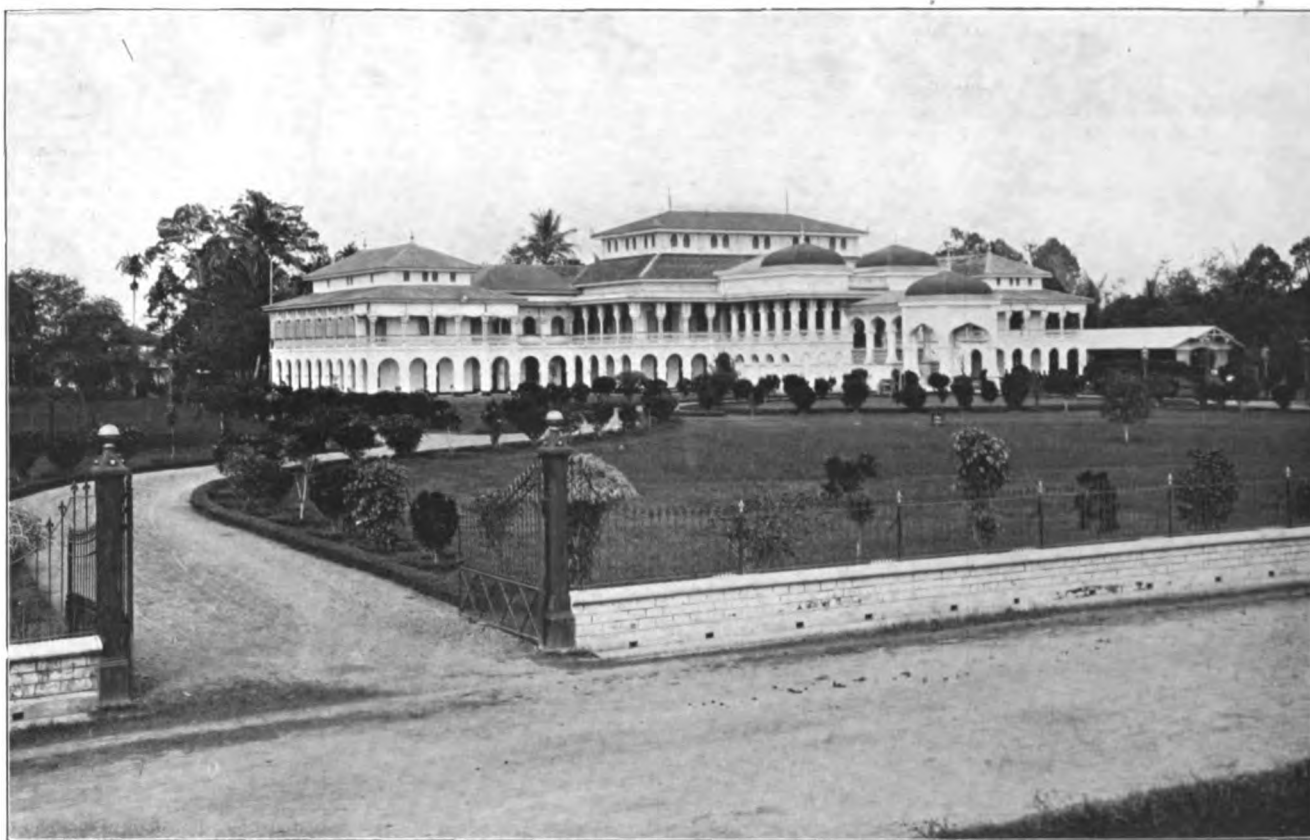
The first Chinese coolies for work on the tobacco plantations were obtained by Mr. Nieuhuys from the Straits Settlements about half a century ago. The immigration, once commenced, increased with each succeeding year, until in 1875 there were 4,500 Chinese coolies engaged on sixty estates in Deli. The Chinamen signed their contracts in Singapore or Penang before leaving for Deli, and, after 1877, when the protectors of the Chinese were nominated, they were always signed in the presence of those protectors. The coolies were obtained from the Straits Settlements until the exorbitant demands of the Straits coolie brokers, who were constantly increasing the payment required for recruiting, induced the planters to take steps to obtain the workmen direct from their



A COUNTRY ROAD.

or only supplied small numbers, those planters who were in urgent need of labour did not abide by this arrangement. Two

of time-expired contract coolies with their savings has been systematically encouraged by the Planters' Association, with the result



PALACE OF H.H. THE SULTAN OF DELI.



1. INTERIOR OF H.H. THE SULTAN OF DELI'S PALACE.

2. H.H. THE SULTAN OF DELI (from a painting).

3. THE SULTAN IN HIS MOTOR CAR.

that each year, as will be seen from the following statistics, a large amount of money has found its way from Deli to the Swatow district.

1905	...	...	...	235
1906	...	...	...	241
1907	...	...	...	800
1908	...	...	...	452



NATIVE VILLAGE NEAR PADANG.

The following table shows the total number of immigrants since 1888, with the amounts sent each year to China by the coolies through the Immigration Bureau :—

1888	...	1,223	...	Fl. 56,140.00
1889	...	6,064	...	121,887.93
1890	...	4,986	...	161,634.90
1891	...	3,997	...	110,290.33
1892	...	2,974	...	110,251.00
1893	...	5,326	...	134,587.48
1894	...	6,046	...	172,382.00
1895	...	7,686	...	282,308.60
1896	...	7,443	...	288,192.20
1897	...	5,258	...	248,063.84
1898	...	6,136	...	326,632.60
1899	...	8,961	...	304,172.13
1900	...	8,241	...	301,576.80
1901	...	6,902	...	241,903.20
1902	...	8,668	...	248,318.02
1903	...	6,750	...	242,696.58
1904	...	5,852	...	218,891.65
1905	...	7,693	...	259,254.68
1906	...	8,472	...	199,577.68
1907	...	10,714	...	206,460.10
1908	...	9,359	...	227,857.71

In addition, much money is taken to China by messengers who undertake to deliver it to the relatives of the labourers.

The coolies who go to Deli direct from Swatow sign their contract after arrival on the estate. Over 90 per cent. of them mention the estate upon which they desire to work before leaving China, while the destination of the others is decided upon their arrival in Deli. The Chinese coolies from the Straits sign their contracts before embarking. The numbers of those who have gone to the estates via Belawan-Deli are appended, but many of the Straits coolies go direct to Asahan or Tandjong Poera, and of these no statistics are available :—

1902	...	...	...	998
1903	...	...	...	558
1904	...	...	...	627

But the Chinese are not the only labourers on the East Coast of Sumatra. Javanese and Klings are also imported, the latter especially for the agricultural estates. The immigration of these workmen began in 1864; in 1875 there were about a thousand

coolie and the manager of the estate. Since 1890 they have been signed in the presence of a Government official, these preliminaries being settled before the coolie leaves his home. There are emigration offices at Batavia and Semarang, and agents are sent from here into the interior to recruit the labour required. The Javanese who return to their homes after the expiration of their contract will often sign on again for a second period of service, but unlike the Chinese, they rarely take their families to the estates. The increase in the emigration of coolies from Java to Sumatra is shown below :—

Year.	Number arrived.	Number returned.
1890	6,956	1,864
1900	7,216	1,870
1901	6,935	1,651
1902	6,163	1,642
1903	5,271	1,407
1904	5,711	2,613
1905	4,752	1,716
1906	6,734	1,901
1907	16,792	4,023
1908	15,523	5,942

At the present time there are about 45,000 Javanese contract coolies employed in the Residency of the East Coast of Sumatra. They are engaged chiefly in building houses, barns, and sheds, and performing all kinds of field labour, with the exception of that required on the tobacco plantations. The planting, harvesting, and sorting of tobacco have generally been entrusted to Chinamen only. It is quite probable, however, that this distribution of responsibility will shortly be very considerably modified. The Javanese have proved themselves capable assistants to the Chinese on the tobacco estates, and in one or two instances where they have recently taken the place of the Celestials the results have been quite satisfactory, so that it may be anticipated that they will be so employed on a gradually increasing scale in the future.



PUBLIC GARDENS, FORT DE KOCK, WEST COAST.

Javanese and Klings on the estates, and the numbers have increased steadily since. Formerly the contracts for the Javanese were drawn up by a notary, as between the

The Klings come to Deli via Pinang and Singapore and sign their contracts upon arrival at the estates. An effort has been made to bring about direct emigration from

British India to Sumatra, but this can only be arranged by treaty between Great Britain and Holland, and so far all negotiations between the two countries have failed to produce any practical result. As long ago as 1884, the Deli Maatschappij and others interested in tobacco cultivation, petitioned the Minister for the Colonies at The Hague upon the subject. At that time there was a great scarcity of labour, for Javanese immigrants were few, and the two thousand Klings who were engaged on the estates had all come from Pinang and Singapore at their own expense. In 1886 the planters drew up another petition, addressing it this time to the Governor-General of Netherlands India. The Consul-General for the Netherlands at Singapore and a controller from Deli were sent to India to see what could be arranged, and negotiations were opened up between the Dutch and British Governments. The British demanded in the draft of a treaty that a British official should be allowed to visit periodically those places in Netherlands India where Klings were employed, that the Dutch officials should exercise control as inspectors over the conditions of labour, and that a special coolie ordinance should be introduced for Klings and their employers only. The Dutch Government would not agree to these conditions, and broke off the negotiations.

The planters have since petitioned the Colonial Secretary at The Hague, pointing out that they had no objection either to the periodical visits of a British official, or to a special coolie ordinance for Klings, but the Dutch Government would not be persuaded to comply with the planters' request to re-open the question, and the immigration of Kling coolies, as a consequence, continues on the old footing, and has not increased to any extent. The Klings on the estates are employed in making roads, trenches, and dykes, and to some extent as carmen—bullock cart drivers. In addition to the Chinese, Javanese, and Klings, natives from Banjermasin, from the island of Bawean, and Bataks from the interior, are also to be found in small numbers on various estates, but as a rule they do not work under contracts.

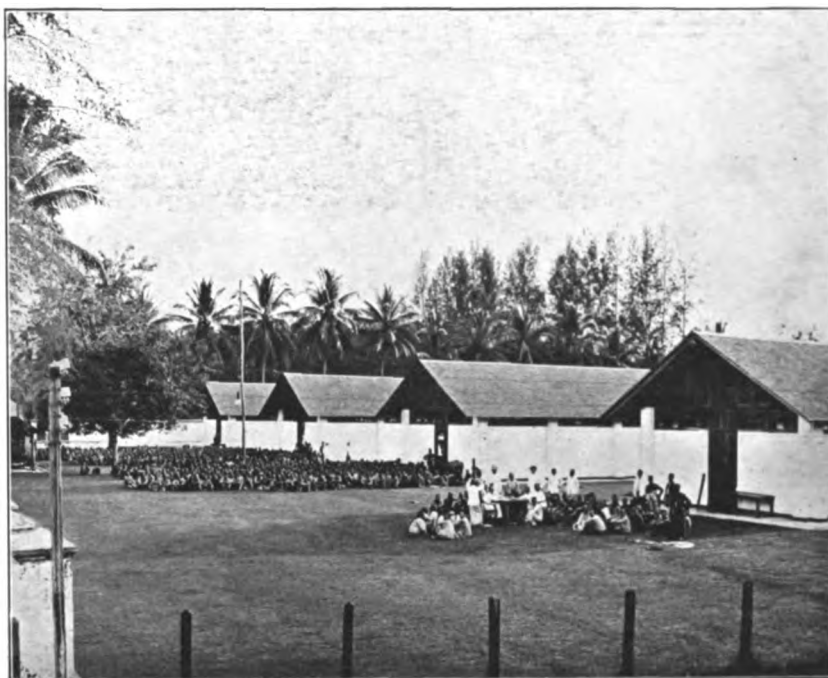
THE COOLIE ORDINANCE.

THE first regulation of the mutual obligations of capital and labour in Netherlands India was issued by the Government in 1880, and is commonly known as the "Coolie Ordinance." In every country where labour has to be imported owing to the scarcity of the native population or its unwillingness to work for others, some such regulations are found necessary. They exist in the Straits Settlements and the Federated Malay States, where Chinese and Tamil labour is imported in British India (Madras Presidency), in West Indies, in Prussia where in the Eastern provinces Prussian and Polish labourers are engaged, and in the Transvaal. The reasons for demanding the regulations are always the same. The capitalist cannot undertake any enterprise, industrial or agricultural, unless he has the certainty of being able to utilise for a fixed period the labour he has imported, and the obligation of the immigrant labourer to abide by his contract is of such vital importance that invariably the regulations threaten punishment for those labourers who seek to withdraw before their term of service has expired. The capitalist, moreover, by the authority given him, is enabled to maintain order and discipline, while on the other hand the immigrant

labourer is assured of the prompt payment of his wage, proper housing, and medical attendance, and transport to his home on the expiration of his contract.

When tobacco was grown by European planters for the first time in Deli, the Sultans of Deli, Langkat and Serdang, had jurisdiction over Europeans, Chinese, and Klings, so far as they were employed on estates subject to those Sultans, while the planters themselves had a sort of jurisdiction over the labourers on their estates. After such jurisdiction passed wholly into the hands of the Government, there arose the demand for the special regulations whereby the workman should be held to his contract, and order maintained by the Government instead of by the planters. In 1876, the planters petitioned the Government to introduce a "Coolie Ordinance," forwarding at the same time a draft copy of such a one as would meet the special needs of the district, and in 1880, as stated above, the first coolie ordinance was issued. It has

tions contained in the Coolie Ordinance were faithfully carried out, and as the coolie has a perfect right also to bring any grievance to the notice of the Government officials, his interests are doubly safeguarded. It was at first anticipated that the special inspection of the labour conditions was a duty only temporarily undertaken by the Government, but in 1906 it was definitely decided that the Inspection Bureau should become a permanent Government institution. The Chief Inspector is now in Batavia, and he has three assistants located in different parts of the residency of the East Coast of Sumatra, one for Deli, one for Langkat, and one for the Southern districts where immigrant labour is employed. These inspectors, accompanied by their interpreters, regularly visit the estates, assure themselves, by looking through the books and in other ways, that the instructions embodied in the Coolie Ordinance are carried out, and inform the magistrate of those cases where they find reason for instituting prosecutions.



GROUP OF CONTRACT COOLIES.

been often added to and altered, but broadly the Ordinance sets forth how the contracts shall be drawn, and stipulates the information that must be contained in such contracts, for instance, the kind of work to be done, the wages and advance the coolie is to receive, the manner in which these are to be paid and accounted for, and the term of the contract, which may in no case exceed three years. By far the greater number of contracts in Deli are for one year only. The Ordinance further contains instructions as to the registration of the contracts by the Government, breach of contract either by employer or employee being only punishable after such registration has been effected, and no registration being permitted until the workman has voluntarily accepted the conditions with a full knowledge of their import. The Government established a special labour inspection bureau on the East Coast of Sumatra to see that all the instruc-

In 1905, Mr. Hoetink, temporary Inspector of Labour, drafted a new coolie ordinance in which the privileges and obligations of capital and labour were again defined and several regulations added to those already in existence. The Ordinance has not yet been introduced, but the planters, at the request of Mr. Hoetink, have amplified the contracts very considerably to bring them into line with the various regulations proposed in the draft copy. In 1906, the Minister for the Colonies submitted a proposal to permit contract work under the regulations of the Coolie Ordinance to new immigrants only. Thus, on the expiration of the first term of service, a labourer would be unable to enter into any further contract, or if he signed such contract, there would be no legal obligation for him to serve its full period. The proposal is generally viewed with disfavour, and fortunately for the East Coast of Sumatra has not been put in force.

MEDAN—THE TOBACCO CITY.

MEDAN is the chief city of Deli; it is also the capital of the East Coast of Sumatra. Medan may be described as a city of paradoxes. At once it is the wealthiest and the poorest place in the East Indies—wealthiest, because in it and around it live more budding millionaires than any one city in the United States can boast; poorest, because its adjacency to Pinang, an easy twelve-hour sea journey, incites its wealthy inhabitants to do most of their shopping in the British colony.

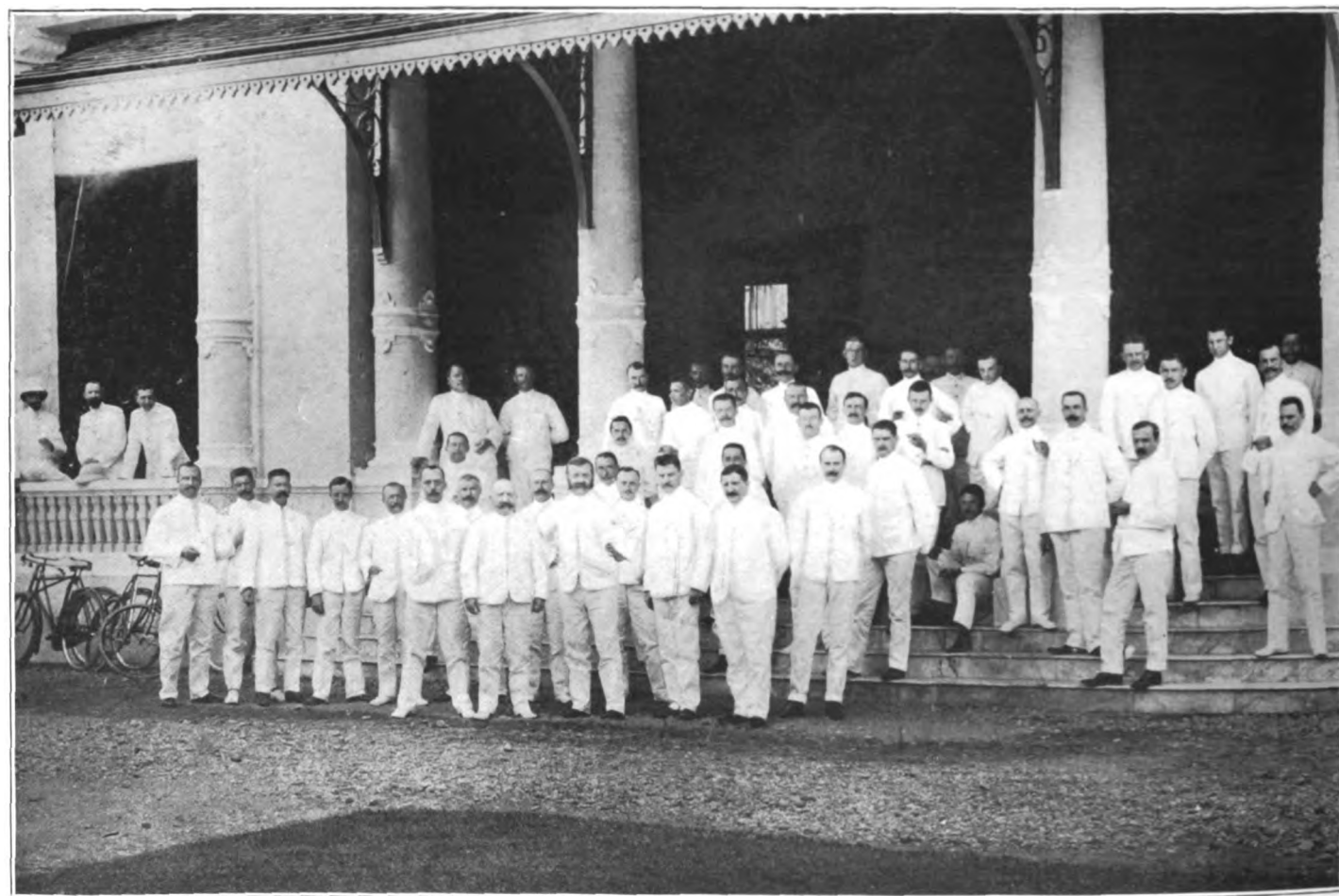
Apart from its trade, Medan has many claims upon the notice of the traveller. It is one huge cigar that has only just been lighted, and its present prosperity is merely indicative of still greater success in the future. So far as historians can trace, it was until forty years ago a portion of that jungle which still practically covers Sumatra. Probably it was the home of forest kings who roamed at their own sweet will over what are now beautifully laid out suburbs, with a drainage system equal to that of any

racecourse, a club, football and tennis grounds, and—like every other place in the world—a cinematograph theatre.

**MR. AND MRS. J. VAN VOLLENHOVEN.**

The town itself consists of one huge square surrounded on its four sides by the station, the post office, the town hall, the hotels, and

ground in which they played. To-day the square is a huge green sward whereon, in the cool of the evening, three or four football matches are played, while at one corner a band composed of natives of Manila discourses music ranging from Wagner (played to Sousa time) to Sousa (played to Wagner time). Here it is that from 6 to 9 p.m. may be seen an endless procession of the beauty and fashion of Medan, and neither Batavia nor Sourabaya can show such smartly appointed equipages as the Medan people affect. Men and women in the saddle also make a brave display, and, as darkness falls and the bandstand is illuminated, there comes before us a fairy-like scene that would send a thrill of joy through the heart of the romantic lady novelist, and stimulate the writer of penny novelettes to new and greater efforts. Yes, Medan is making its hay while the sun yet shines. Its motto is, "Let us be merry while we may, for to-morrow we shall retire and settle down to a quiet, respectable, wealthy life at home." That indeed is the creed of every planter and his wife. Long

**MEMBERS OF THE WITTE CLUB.**

European town: certainly it was governed by a tribe of Malays whose knowledge of civilisation was nil. That was little less than half a century ago, when suddenly the Deli Tobacco Company—the Deli Maatschappij, to give it the correct title—made its appearance. To-day Medan is a pretty, healthy, well-laid-out city, more European in its aspect than any other city in Netherlands India, with two fine hotels, a handsome railway station, a

all the principal mercantile offices. Whether or not the word Medan (pronounced Madan) has any connection with Maidan—as at Calcutta—we can find no trace, but in its earlier days the city was known as Medan Poetri, which, roughly interpreted from the Malay, means the Square of the Princesses. Indeed we have it from the Sultan of Deli himself that it was a private garden for the use of the daughters of the ruler, a recreation

hot days in the tobacco fields (with never a rest, save for two days in the month) for a few years, then promotion and a few years in supreme command in the office, and then—a fortune and home. No holiday trips to Europe and then back to toil like the English planter, but hard, solid, uncompromising work until the end is attained, and Sumatra and its tobacco fields—and Medan—are left behind for ever.

Those two days' holiday deserve a word in passing, for then it is that Medan is seen at its best. The 1st and the 16th of every month are holy days to the planter. On them he does no manner of work, neither his ox nor his ass, his maid servant nor his man servant nor the stranger within his gates. For fifteen days he has been making tobacco—to him heaven and earth—and on the sixteenth he— Rests? Not a bit of it. He comes into Medan, meets his friends, spends his money, and, generally, has a good time. He's a good fellow, the Dutch planter, and Medan loves him, for he spends his money like water and helps every one else to enjoy themselves with him. Then, late in the evening, having feasted well (and, sometimes, wisely), back he goes to duty and Medan knows him not for another fortnight.

Let us get back to our geography. On leaving the railway station the traveller gets his luggage on to a car and drives, or, rather, is driven to one or other of the hotels. To his surprise he finds that the drive lasts less than two minutes. In either case he finds his nominated hostelry to be a fine up-to-date caravanserai, with a courteous European manager to greet him, and half a dozen native servants ready to convey his trunks to his room—always providing that there is one vacant. These two hotels in Medan—the Medan and the De Boer—do a mighty business, and it is seldom that either of them has a vacant room. In such a case the luckless traveller has to trust to a luckless chance. It seems almost like one of Alice's adventures in Wonderland to state seriously that unless you have already booked a room in a Medan hotel (and received due confirmation of such booking) there is practically nowhere to lay your head.

There are many sorts of people in this capital of Sumatra. There is, for instance, the Resident, the embodiment of the monarchy of Holland. Mr. Ballot is a charming gentleman of the old-world school of courtesy, combining, if ever a man combined the two, the *suaviter in modo* with the *fortiter in re*; there is his chief assistant, Mr. Simon van der Plas, and then, again, there is Mr. Maier, the assistant resident of Medan, who has spent all his life in the East, and lastly Mr. Vorstman, the secretary to all three. On the judicial side, Mr. H. J. Matthes is recognised as a strong chief magistrate, while Mr. Rahder, the public prosecutor, is a thorn in the sides of all evil-doers.

The British community in Medan numbers at the most ten people. In Langkat, the neighbouring State, however, there are many British residents, notable among them being Mr. R. Maclean, the head administrator of the United Langkat Tobacco Company, and Dr. Graham, who has spent many years of his life in ministering to the physical needs of the staff of that company. The Chinese hereabouts, differing from their fellows in Java, come mostly from Singapore and Pinang. The Javanese Chinaman is as a rule Java born, while the Deli celestial swears allegiance to the Straits Settlements. He is a quiet, well-behaved, hard-working man, whether he be master or servant. A passing reference to the Chinese Major and the Chinese Captain of Medan may be permitted. Both are wealthy and both are respected, not only because of their wealth but because by their own mode of life and their discipline they have instilled into their countrymen a high sense of duty and correct living. It is not too much to say that the Chinaman in Deli is a greater credit to his country than the average alien to be met with in most countries. But having said so



THE ESPLANADE.



MEDAN HOTEL A PLANTERS' HOLIDAY.



OFFICES OF THE DELI MAATSCHAPPIJ. RESIDENCE OF MR. J. VAN VOLLINGHOVEN ON LEFT.

much about the "foreigners," what about the native rulers? It is impossible to imagine a finer specimen of the old-fashioned gentleman than the Sultan of Deli. He cannot

the woods along the coast, growing half into the sea, which consist almost entirely of mangrove or rhizophoræ-trees (*bakoe*) standing above the water on a laby-

but begin to germinate on the trees which produced them and grow out into long staff-formed stalks, hanging perpendicularly in the air. When at last they get free from the branch, they sink by their own weight into the soft bottom of the sea, and remain sticking upright in it, whereupon their lower end immediately begins to strike firm root. Shortly afterwards, the part protruding above the water sends forth leaves and branches.

Slowly and cautiously the steamer creeps in over the mudbank at the mouth of the river, and in half an hour lounges up against the wharf. A two minute walk brings the traveller to the railway station, and if he is lucky to catch a train he is at Medan within three-quarters of an hour.

What especially strikes the European coming from Java is the more modern Western character in the laying out of the grounds and buildings, the greater variety in architecture, adapted to the mixed population. The cause of this lies in the proximity of the Straits Settlements and the overwhelming influence of planters. These, of all nations, chiefly consisting of young enterprising men fresh from Europe, have imprinted a Western character upon everything, and in the arrangement of their dwellings and plantations have followed the example of their English neighbours across the Straits, rather than those of Java, which lies farther off. In society there is an increasing disposition to depart from the standard of planting life to which we have referred, and to visit Europe more frequently. Generally the Deli Tobacco Planters approximate more to the British type than their Javan fellows. Things worth seeing in Medan are: the palace of the Sultan, a new building erected by a European architect in a sort of Moorish style; the Chinese temple, bearing witness to the vast sums of money which are earned in Deli by the sons of the Celestial



STREET IN CHINESE QUARTER.

speaking a word of English, but he dresses in correct European style, and a casual observer watching him from behind would say "there's a fine old English gentleman, all of the olden time." Supposing one hurries on and overtakes him. He stops, leans heavily upon his stick with his left hand, and with his right raises his hat in stately fashion. The Sultan is a man of some fifty-five years of age, clean shaven and with sharp intelligent features. It is marvellous how well-informed he is and how eager he is to extend his knowledge, but he never has seen and never will see the great world. He is proud of his environment and content to live and die in it. There are other sultans. The Sultan of Langkat, for instance, is a much younger man than His Highness of Deli; possibly a man of greater ambition. As a sportsman, a hail-fellow-well-met, he would have been another Ranjitsinghi had he but had his chance. Then there is My Lord of Serdang, quiet, unassuming, and unambitious, who considers he has done his duty to his race by sending his eldest son—*what* seven—to a private seminary in Batavia.

Medan lies on the Deli River at its confluence with the Boboera. Its port is Belawan, some 40 miles distant. As the steamer approaches this place in the dim light of sunrise the traveller sees, far inland, a ridge of dark-blue mountains from which rise a couple of finely-delineated volcanic cones. One of these, as the sun grows brighter, is distinguished by a greyish-yellow tint which has gained for it, some say erroneously, the name of Sulphur Mountain, and sometimes by a white plume of smoke hovering on its summit. The broad stretch of lowland between the mountain-range and the coast has been formed by the sinking of the mud, washed away from the mountains, at the mouths of the rivers, and on both sides of their banks by the periodical inundations. The land is being continually increased by

rinth of air-roots, between which the mud remains hanging and accumulates. Thus the bottom of the sea, on which they take root, gradually becomes dry land, but underneath, along their outer edge, a new fringe of young plants has come up, which continue



THE TAMIANG MONUMENT.

to form land. This power of being able to strike root in the sea the mangroves owe to their extremely remarkable powers of reproduction. Their ripe seeds do not fall off,

Empire; a new Mahomedan mosque, the war memorial on the Esplanade, the Residency, and the private zoological collection of the Chinese Captain at Pulo Brian.

Whoever stops at Deli should make a point of visiting a tobacco plantation. Everywhere he will find the arrangements much about the same. In the middle stands a spacious house for the director, erected after the English-Indian bungalow type. Next to it extends a gigantic fermenting barn, to which the tobacco is taken in the month of July to lie and ferment for from six to nine months. Then comes the large airy shed of the Chinese workmen, in the neighbourhood of which one or more native shops, here named "kedei," are to be found, and other dwellings of Javanese, Klings, Bengalese, or Boyans.

A great development of modern times has been the municipalisation of Medan. Brought about only three years ago the city, which, in common with the whole of the East Coast, was under the direct control of the Resident, now has a council of prominent local men

based upon political treaties with each of the Sultans, in whose hands is left the jurisdiction over their own subjects except so far as relates to the infliction of the death penalty, and the disposal of land and landed property. Land contracts with Europeans, while made between the ruling prince and the concessionaire, are subject to the approval of the Resident. Mining contracts require the approval of the Governor-General of Netherlands India. In all the states the Dutch Government has bought the right to collect the customs duties and the ordinary revenues. Land revenue collected by Government officials is at the disposal of the native ruler and his chiefs. The four states we have mentioned above are celebrated throughout the world for the fine silky tobacco leaf which they produce, a leaf specially suited for the outside wrappers of cigars, being at

oil and rubber. The population of the East Coast of Sumatra to-day is close upon 650,000, made up of 3,000 Europeans, 110,000 Chinese, 30,000 Klings and Javanese, and 500,000 Malays.

GOVERNMENT OFFICIALS.

MR. J. BALLOT, the Resident at Medan, is a distinguished member of the Dutch Colonial Service. Born at Rotterdam in 1860, he was, at the age of twenty-one, appointed to an assistant controllership in Java. This position he retained for two years, and was then, at his own request, transferred to a similar post in Celebes. Young, energetic, and undoubtedly ambitious, he saw in this branch of the service greater opportunities



GARDEN PARTY AT THE RESIDENCY, MEDAN.
(In honour of the birth of an heiress to the House of Orange.)

who govern its destinies, and have, even in the short time of their government, brought about many civic improvements. At night time, Medan is brilliantly illuminated by electricity, and, to paraphrase an historic saying of Sir West Ridgway, the European is as safe, if not safer, at night time in one of its outlying streets as he would be in one of the fashionable London squares. The native quarters call for little comment; they are remarkably clean and well kept, and there is little of that sleep-disturbing noise which generally characterises an equatorial town.

The supremacy of the Dutch Government at Deli, Langkat, Serdang, and Asahan, is

once light in weight and elastic and strong in texture. The minor agricultural products are Liberian coffee, coconuts, pepper, and rubber. Jungle produce, formerly exported considerably, is getting scarcer by reason of the jungle being felled for the purpose of planting tobacco and rubber. The production of paddy, though considerable, falls short of the demand by many thousands of bags, which are mostly imported from the Straits Settlements. Kerosene oil is exported in huge quantities from Langkat to British India, Siam, the Straits Settlements, and China. It is indeed prophesied that long after the tobacco fields of Sumatra are exhausted, the country will prosper through its output of

for exercising the gift for administration which has so far characterised his career, and more possibilities of promotion than if he remained in Java. His subsequent record proves that his judgment was sound. In 1885 he was promoted to a controllership on the West Coast of Sumatra, and five years later, upon returning from Holland, was transferred to a similar position on the East Coast. In 1895 he was appointed "referendum" in the "Departement van Binnenlandsch Bestuur," Batavia, but seven years later he was sent once again to Sumatra, on this occasion as Assistant Resident on the West Coast. He was made Resident at Medan four years ago and has since carried out the duties of the



THE MOSQUE.

office with credit to himself and dignity to his Government. During his twenty-eight years of service Mr. Ballot has paid only two visits to Holland in 1888 and in 1890. He has been twice married, first in 1882 and again in 1897. Mrs. Ballot has done much towards making her husband's rule at Medan as popular as it is.

MR. E. G. MAIER, the Assistant Resident, was born in Batavia in 1865. At the age of twenty-four he was appointed Assistant Controller at Menado, in Celebes, and has since carried out the duties of Controller at Pelamboeng and in East Borneo. In 1902 he was appointed to his present position exactly ten years after his marriage, which took place at Batavia. Mr. Maier was in Holland on leave from August, 1899, to January, 1901.

MR. F. C. VORSTMAN has been Secretary to the Medan Residency since July, 1908. Born at Boskoop, Holland, in 1870, he entered the Dutch Colonial Service in 1892, and was appointed to South-East Borneo. A year later he went to Celebes, but returning to Borneo in 1900 he remained in that country, with the exception of a holiday in Europe, until promoted to his present post. Mr. Vorstman has proved himself a genial and tactful official, and is very popular in Medan.

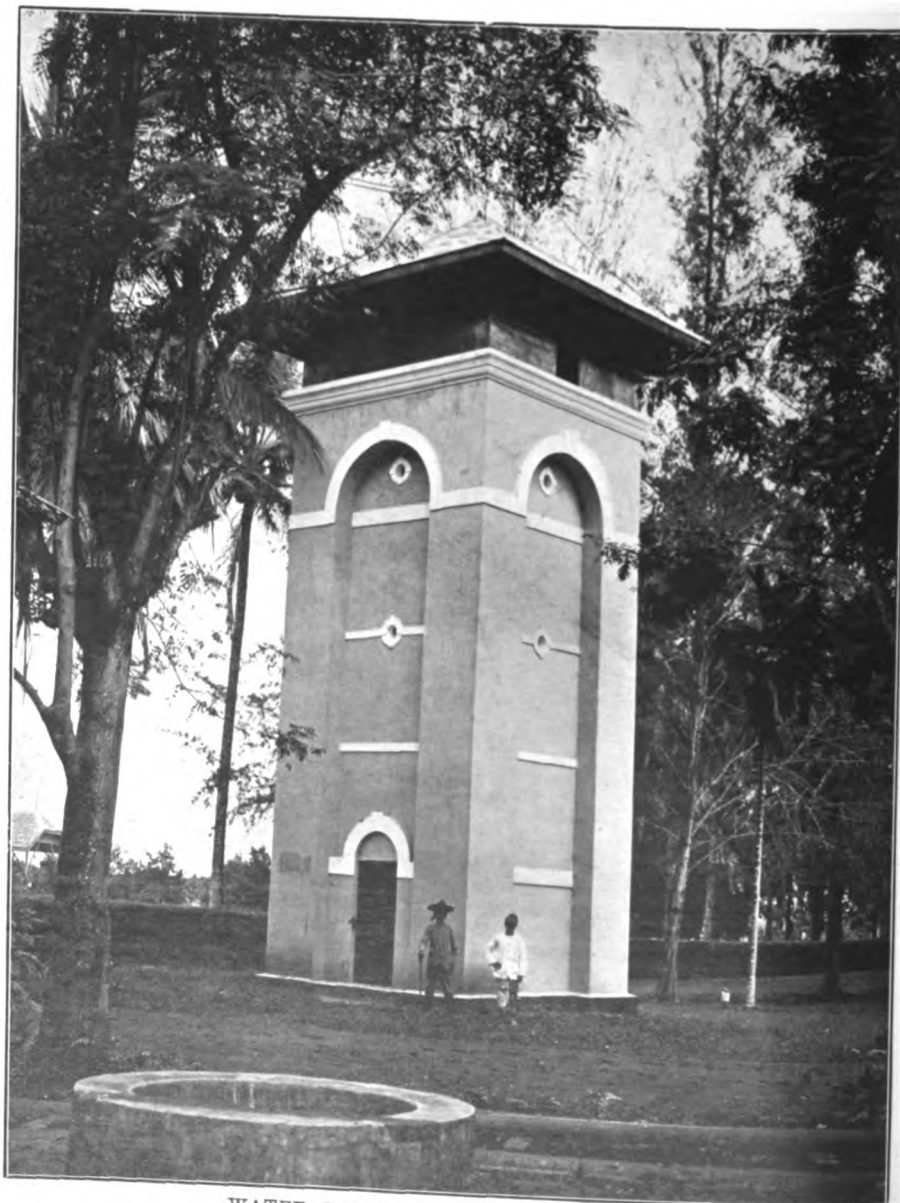
MR. H. J. MATTHES, the presiding magistrate at Medan, was born in Menado, in Celebes, in 1863. After graduating as a Doctor of Law at Leyden University, he joined the Colonial Civil Service as Clerk of the Court at Batavia. Three years later he was appointed a magistrate at Semarang, and in 1894 President of the Native Court at Poerbolinggo. He has also held official positions at Solo and Salatiga.

MR. J. J. DE HEER, who during the past six years has established a large legal practice in Medan, was born at Rotterdam on July 29, 1877. Educated at Leyden University, he was admitted as a solicitor in 1899, and for the three years following was engaged in legal work in his native city. He then emigrated to Netherlands India, and after a year's stay in Semarang, started his professional career in Sumatra.

"AYER BERESIN" WATER SUPPLY COMPANY.

WHEN, in 1886, Medan was made the capital of the residency of the East Coast of Sumatra, it immediately began to cast around for ways and means of making itself worthy of the honour. The old and primitive sanitary arrangements were swept away by a complete system of drainage, the roads were macadamised, and electric light installed. There remained, however, one great drawback, the absence of good drinking water. Many plans were made for the provision of an adequate supply, but the estimated cost ran into several hundred thousand guilders, and the prospect of reasonable dividends being forthcoming seemed so remote that it was impossible for some time to raise the capital required for the undertaking. Messrs. P. Kolff, "Commissaris," and J. van Vollenhoven, the manager of the Deli Maatschappij, however, at last succeeded in inducing their directors to take up the matter, and the results have since been most satisfactory.

The Deli Maatschappij, in June, 1903, sent Mr. Boshuyer to study the problem, and to draw up plans for the construction of a



WATER TOWER AT "TWO RIVERS."

proper water service. His proposal was to supply Medan with water from the springs at Roemah Soemboel, on the border of the Sibolangit Plateau, about 1,760 feet above Deli and a little over 20 miles from the town, and as the chemical and bacteriological examinations proved the water to be of excellent quality, the Deli Maatschappij, in June, 1904, applied for a concession to establish and exploit a high pressure channel for supplying water to Medan and the tobacco estates, "Two Rivers," "Deli-Toewa," "Mariendal," and "Polonia," *en route*. The concession was granted in March, 1905, with the stipulated condition that the company should maintain ten hydrants, five Wallace wall fountains, and three public baths, and supply water for public use and for extinguishing fires free of charge. In September, 1905, the "Ayer Beresih" Water Supply Company was founded in Amsterdam to work the concession, the Deli Maatschappij supplying the capital. Messrs. H. C. van den Honert (president), P. Kolff, and Aug. Janssen were the "Commissarissen" of the new company, and Mr. C. M. Herckenrath the director. Mr. J. van Vollenhoven, manager of the Deli Maatschappij, and W. H. M. Schadee, manager of the Deli Railway Company, were appointed the Company's delegates in Netherlands India, while Mr. L. Polis, civil engineer, was chosen as manager and entrusted with the execution of the work.

Mr. Boshuyer's preliminary plan was elaborated and some important changes made in it. The channel from the springs at Roemah Soemboel to the high reservoir in Medan is 37,585 metres, or about 23½ miles long, and consists of cast-iron pipes, the various sections of which are 125, 150, 175, and 250 millimetres in diameter, so that the pressure of water is kept within certain limits. At intervals of a kilometre along the channel are placed a shut-cock, a draw-off cock, a safety-valve, and a pressure-gauge (manometer), by means of which the water in the different sections is regulated, and the pipes cleaned. There is also an air-valve at every culminating point of the channel. The high reservoir at Medan, where the average level of the water is about 185 feet above the town, is built of iron on the Intze system, with wooden casing and Monier roofing. It rests on an iron frame, about 100 feet high with a 13-foot stone basement, is 27 feet high, 42 feet in diameter, and contains 1,200 cubic metres of water. In Medan there is a total length of about 13 miles (21 kilometres) of piping.

The work of constructing the service was commenced in January, 1906, and water was supplied to Medan for the first time in August, 1907, a temporary arrangement being made to regulate the pressure. In December, 1908, the high reservoir was completed. The cost of the whole work amounted to G. 733,317, the high reservoir alone accounting for G. 149,494. At the end of 1907, there were 283 houses being supplied with water, a number which by January, 1909, had grown to 732. During 1908, 233,000 cubic metres of water were supplied.

ELECTRICITEIT MAATSCHAPPIJ "MEDAN."

THE contract for lighting the streets of Medan with electricity was obtained by the Electriciteit Maatschappij "Medan," in March, 1900. The management of the Company in Holland was at that time vested with the firm of Messrs. Koopman & Co., but afterwards their interests were taken over by Mr. J. M. L. C. Kerstens; Mr. J. van Harlingen became the local representative, with Mr.

W. H. M. Schadee as "commissaris," and many important changes were then effected in the general conduct of the undertaking. A liberal and progressive policy was initiated which has been followed ever since with profit to the Company and advantage to the community. Great financial sacrifices were made to supply the power station with a new plant, and the charges for lighting were reduced in order to increase, if possible, the number of private consumers. The results have been eminently satisfactory.

being the Medan Hotel with 523 lamps, the residence of the Captain of the Chinese with 425, the "Witte" Club with 334, Hotel de Boer with 352, and the Sultan's Temple with 317.

The power station is fitted with four Diesel engines of 100 horse-power each. Each engine has two cylinders 137 inches in diameter, and a 21-inch stroke, making 170 revolutions a minute, and driving a 70 K.W. alternating current dynamo, as well as a small continuous current dynamo giving



WATER TOWER IN MEDAN.

To-day the streets of Medan, over 14 miles in length, are lighted by means of 16 arc lamps of 1,000 c. p. and 460 incandescent lamps of 20 c. p. each, placed in watertight covers with reflectors, which are suspended from iron poles. The electric power is carried through the town on overhead wires as a high-tension single-phase alternating current of 1,000 volts, and is transformed to a low-tension alternating current of 110 volts at 44 stations situated at different points. There are 167 private consumers, the largest

220 volts for the magnets, and pumps for cooling water. These last, two in number, are electro centrifugal pumps, each having a capacity of 140 litres per minute, which force the water required for cooling purposes from the neighbouring river into a tank reservoir placed at a height of 42 feet 6 inches. In case of accident, too, water for cooling can be obtained from the pipes of the local Water Supply Company, which are permanently connected to the cooling apparatus. The dynamos carry the highest load at about

9 p.m., when the terminal board indicates 166 K.W. Three dynamos are constantly at work, while a fourth is kept in reserve and connected, so that it can be used if required

the school was so great that at the expiration of the six months Mr. Ott decided to remain in Medan at his own expense. He is still there, and his example and teaching are



POWER STATION OF THE ELECTRIC LIGHT WORKS, MEDAN.

at a moment's notice. The Diesel engines were supplied by the Nederlandsche Fabriek van Werkingen en Spoorweg Materieel, of Amsterdam, and the electric plant by the Westinghouse Company of Pittsburg, and the "Electrotechnische Industrie," of Slikkerveer.

The Electriciteit Maatschappij "Medan" was founded in 1898 to take over the concession originally held by Messrs. G. D. Langereis & Co. Its establishment was confirmed by Government Order on the 18th of July, 1898.

DELI RIDING CLUB.

THERE is no question about the sporting instincts of the Deli planters. They are as enthusiastic in their play as in their work, and when anything interests them they enter into it and carry it through with an enthusiasm that is contagious. Horse racing was at one time the great attraction, and then the Deli racecourse was one of the most popular sporting centres in the tropics, but now interest in this form of amusement has waned, and a sort of passion for horse-riding, as distinct from racing, has taken its place. In 1905, largely through the instrumentality of Mr. L. Polis, a Riding Club was established which has now become the leading sports club on the East Coast of Sumatra. Meetings are held frequently, when the planters come in from all sides to join their friends of the town in a gallop over the country, and these occasions are welcomed as opportunities for dispensing that liberal hospitality for which the district is famed. Every year also a gymkhana and a "Concours Hippique" are organised.

Shortly after the club was founded, a fine riding school was added to the other buildings, and Mr. Emil Ott, of Ott's Circus, was persuaded to remain in Medan for six months to give the members the benefit of his wide experience in horsemanship. The success of

highly valued. In 1908 two amateur circus performances were given by members of the Club and the Riding School, which attracted a large number of spectators and proved most interesting. Altogether the club has some eighty members scattered over the country.



A GOOD JUMP.

The committee of management comprise Messrs. H. J. Bool, O. Magnée, J. J. de Heer, M. van Yzeren, R. D. Jongeneel, C. M. H. Siegmund, and A. Buck.

THE ASSOCIATION FOR SICK NURSING.

THE Association for Sick Nursing on the East Coast of Sumatra, Medan, was founded in July, 1899, by Mr. H. Ingerman, general manager of the Deli Company, and the Rev. M. J. Bronders, of Medan. Mr. Ingerman, when on a visit to Holland, placed the idea before several old residents, with the result that G. 15,000 were subscribed by Messrs. P. W. Janssen, founder and first director of the Deli Company in Amsterdam, and J. Nieuhuys, the pioneer of tobacco cultivation in Deli, to defray the cost of building an hospitum, hospital, and operating room. Later on, when the plans and estimates were made, and the sum proved inadequate, the same gentlemen generously undertook to bear the cost of all the buildings connected with the hospital. A further stimulus was given to the association by a donation of G. 10,000, from Mr. Frits Meyer, of Zurich, owner of the Namoe-Trassi estate, and by the presentation of the large site of land, upon which the buildings now stand, by the Deli Company, whilst public sympathy being aroused the additional G. 7,000 required to complete the undertaking were raised by the circulation of subscription lists. In 1901 Mr. C. von Schmid, general manager of the Deli-Batavia Company, and a member of the board of the association, erected at his own expense a wing for patients suffering from contagious diseases.

The object of the association is to provide home nursing, as well as to treat patients in the hospital itself, where eight rooms are available. The nursing staff comprises a lady director and five qualified nurses.

The management is vested in the hands of a president, a position always held by the Resident of the East Coast of Sumatra, a secretary (who must be a practising doctor), a treasurer, and a board of nine members.

The income of the association is derived chiefly from subscriptions and donations,

which last year amounted to G. 15,000. Over G. 11,000 were received from patients treated. The number of subscribers on July 1, 1908, was 140, of whom 99 were

private individuals, 39 companies and the German and Swiss Clubs. A minimum monthly payment of G. 2.50 entitles the subscriber and his family to special terms, whilst after a patient has been treated for more than a month the tariff is reduced by 20 per cent. Moreover, in certain circumstances the management may lower the fees at its discretion, and consequently every year a few patients are either treated gratuitously or at a much reduced rate.

The tariff is as follows:—

For treatment (nursing) in hospital for adults, ordinary tariff G. 7.50, reduced tariff G. 5 per diem; for children under twelve years of age, G. 3.75 and G. 2.50 respectively.

For Home Nursing,	Ordinary Tariff. G.	Reduced Tariff. G.
Day and night ...	5.00	4.00
Night only ...	3.50	3.00
Day only ...	3.00	2.00
Single visit ...	1.50	1.25

The association owns a disinfecting oven, which is at the disposal of the public on payment of G. 5 for each time it is used.

DELI EXPERIMENTAL STATION.

ESTABLISHED in 1904, the Deli Experimental Station at Medan is an institution founded by the planters in Deli, in the interests of tobacco cultivation, where different methods for preventing disease, destroying insects, and for improving generally the cultivation of the plant, might be tested and perfected. The director, Dr. J. G. C. Vriens, is assisted in the management by Dr. L. P. le Cosquino de Bussy, as chief of the Biological Department, and by Drs. E. W. Remmert and K. Diem, and Mr. J. J. Pennington de Jongh, while the accountant is Mr. J. P. Unterhorst. It is hoped that the staff will shortly be augmented by a Doctor of Biology and an assistant. The results of all research work are communicated to the planters through the medium of a technical journal, known as "Information from the Deli Experimental Station" (Mededeelingen van het Deli Proef Station) published by the Society and edited by the Director.

The members of the committee are Dr. M. Treub (director of Agriculture at Buitenzorg), Mr. J. van Vollenhoven (president of the Planters' Association), and Dr. J. G. C. Vriens (the director of the Station. The Society has a membership of 44, who represent 111 estates, practically all the tobacco estates on the East Coast of Sumatra.

PATHOLOGICAL LABORATORY.

THE Pathological Laboratory at Medan was established in 1906 by the three tobacco companies: the Deli Maatschappij, the Medan Tobacco Company, and the Senembah Company, at the suggestion of Dr. C. W. Janssen and Mr. J. van Vollenhoven, for the purpose of providing opportunities for studying the tropical diseases which have made their appearance in or threaten the country, and for giving information and carrying on research work in pathology and hygiene whenever required in the interests of the public. Vaccine is prepared in the Laboratory and supplied gratis, and European and native medical men are allowed to practise there and to assist in scientific work.

Dr. C. W. Janssen, who had studied tropical diseases in Deli for many years, was appointed director, and he is assisted by Mr. J. F. van den Bosch, of the Hospital of the Deli Maatschappij, which stands close by. The Laboratory is fully equipped for research work in pathology, anatomy, physiology, and

hygiene, and contains a comprehensive library of scientific books devoted to these subjects. Up to the present the causes and prevention of such diseases as cholera, plague, dysentery, typhus, have been treated, as well as cattle diseases, the scientific communications and early reports from the Pathological Laboratory being published regularly in the Medical Journal for Netherlands India known as the "Geneeskundig Tydschrift voor Nederlands India" (Batavia).

It is hoped that in the course of a short time other companies will assist in supporting this useful institution, and that, so extensive will its operations become, a central medical establishment will be formed which will take the lead in solving the difficulties presented by immigration, the opening-up of new territory, and so forth.

COMMERCIAL: EUROPEAN.

BANK EN HANDELSVEREENIGING NAUDIN TEN CATE & CO.

THIS young but none the less prosperous banking house changed hands as recently as January 1, 1909, when its present title

ness, the Company acts as agents for Lloyds, the Central, the Sun, the State, the Insulinde, the Oost Indische, the Nederlandsche Lloyd, and the Samarangsche Insurance Companies, and for underwriters in Amsterdam. It also has charge of the administration of various tobacco, coffee, and rubber estates.

Mr. Magnée is a member of the Landraad and the Cultuur raad in Medan, and is the Managing Director of the New Tambun Mines, Ltd.—a tin mine in Perak, Federated Malay States—as well as Director of several important companies. He is a well-known owner of racehorses, and his nominations have won many trophies in Deli and the Straits Settlements.

VAN NIE & CO.

FEW firms on the East Coast of Sumatra are better known than Messrs. Van Nie & Co., the local agents for the Koninklyke Paketvaart Company, the Steam Navigation Company Nederland, the Rotterdam Lloyd, the Java-Bengal Line, and the Java-China-Japan Line. The business was established in 1885 by Mr. Jacob van Nie, one of those sturdy pioneers who helped towards making Medan



PATHOLOGICAL LABORATORY, MEDAN (DELI).

was adopted; formerly the business was carried on under the style of Naudin Ten Cate & Co. Established in 1892, the Company now has a capital of one million guilders, and judging by the number of customers to be seen at its counters every day is a prosperous and flourishing concern. In a large measure, undoubtedly, its success is due to the personality of the managing director, Mr. O. R. L. J. Magnée, whose business acumen is acknowledged throughout Sumatra.

After spending some time in Borneo, Mr. Magnée came to Medan in 1902, and for a short time was editor of the *Deli Courant*. Desiring to return to commercial life, he purchased the business of Naudin Ten Cate & Co., and, after a while, converted it into a limited liability company. Under his guidance and that of Mr. D. A. den Boestert, who is joint managing director with Mr. Magnée, the bank has made continuous progress and holds an important position among the financial institutions of the country. A branch of the bank has been recently opened in Pinang.

In addition to doing ordinary banking busi-

ness, the Company acts as agents for Lloyds, the Central, the Sun, the State, the Insulinde, the Oost Indische, the Nederlandsche Lloyd, and the Samarangsche Insurance Companies, and for underwriters in Amsterdam. It also has charge of the administration of various tobacco, coffee, and rubber estates.

In addition to being sole agents for the five steamship lines mentioned, Messrs. van Nie & Co. control the local business of a number of important companies including Messrs. Jebson & Co.'s steamers (Hongkong); the Asiatic Petroleum Company; the Netherlands Lloyd Assurance Company; Messrs. Lauts, Wegener & Co. (Hongkong); the Borneo Sumatra Handel Maatschappij; Messrs. Tollens & Co. (Rotterdam) steam paint factory; the Centrale Guano Fabriek; and the Netherlands India Discount Bank. For the more efficient control of its various interests the firm has opened a branch office at Belawan, the principal port of Deli, where often four or five of the Paketvaart Company's steamers may be seen berthed at the same time.

Mr. van Houten, who, in addition to his ordinary business responsibilities, carries out the duties of Consul-Agent for France, is a prominent member of the Witte Club at Medan and a well-known and popular figure in local society.

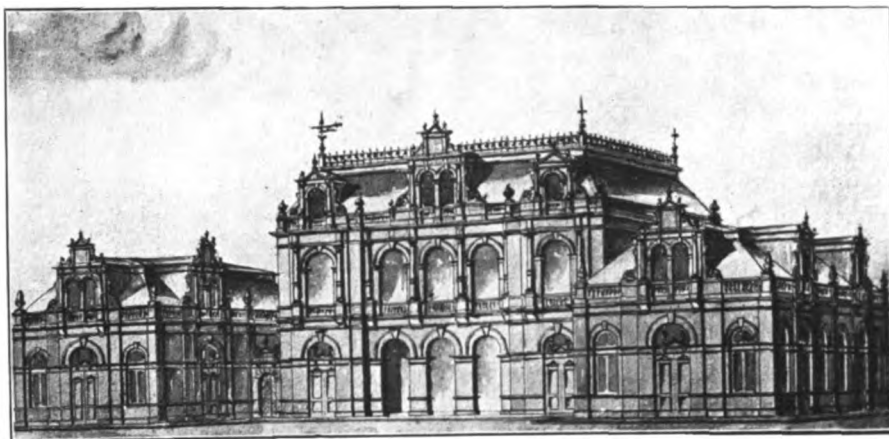
and take a large share in the import of Java cattle, bullock trucks being a specialty of theirs. In the absence of Mr. Kerkhoff the interests of the firm are ably guarded by his partner, Mr. J. C. F. Carrière.

The most important agencies held by the

European commercial houses on the East Coast of Sumatra. From their foundation they have endeavoured to supply the general requirements of the Government, and of the planting and industrial communities, and as the country has been gradually developed their interests have been continually increasing. Now their premises in Medan form an imposing emporium containing merchandise of every conceivable description, where large transactions, both wholesale and retail, are effected. There are departments for general merchandise, machinery, tools, motors, electrical goods, harness, saddlery, guns, and ammunition, mechanical watchmaking, and tailoring. The firm are also agents for some of the most prominent trading, insurance, and manufacturing concerns in Europe and the East, and have at various intervals established extensive tobacco plantations in Langkat and Serdang, to convert them afterwards into flourishing companies. It will thus be seen that their enterprise is by no means confined to any one branch of commercial activity.

The managing director of the Company, Mr. Heinrich Huttenbach, has had some thirty years' experience of the East, and is well known as a planter and merchant both in Sumatra and the Straits Settlements. Mr. A. Pedersen, who holds the position of general manager to the Company, was formerly administrator of the Kwaloe Asahan Tobacco Company and the Paya Jambu Estates Company of Langkat.

The firm have a high reputation, both with the general public and among their employes. Their continued prosperity is a sufficient testimony of the one, while the long records of service which many members of the staff can show are conclusive evidence of the other. The chief Chinese clerk has been with the Company for over thirty years.



BUSINESS PREMISES OF GÜNTZEL & SCHUMACHER, LTD.

HADEL MAATSCHAPPIJ "GÜNTZEL & SCHUMACHER."

MR. CARL HICK, who has held the position of German Consul at Medan for eleven years, has been closely identified with the commercial interests of Deli for more than twenty years past. Among his other interests and activities he is director of the Handel Maatschappij "Güntzel & Schumacher," one of the most important firms of its kind on the East Coast of Sumatra.

Founded in 1889 by Messrs. Gustav Güntzel and F. A. Schumacher for the purpose of carrying on a general import and estate agency business, the firm "made good"—as the American term has it—from the very start. In 1892, the original partners sold the entire concern to Mr. Carl Hick and Mr. Aug. Jaenichen, who, at that time, were assistants on neighbouring plantations, both having come out to the colony from Germany seven years previously. In 1905 it was turned into a limited liability company under its present title, with Mr. Hick as managing director, and Messrs. Aug. Jaenichen and Eduard Goldenberg to assist him on the board. The firm has a capital of G. 500,000 fully paid up, and branches at Belawan and Loeboeq Pakam, in Sumatra, and at Hamburg.

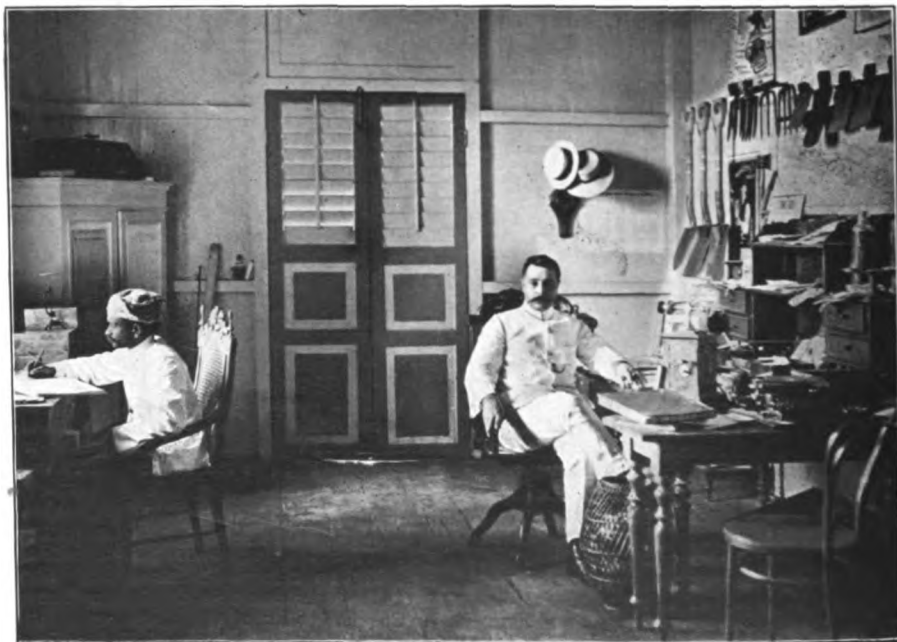
Latterly, Mr. Jaenichen has represented the Company as resident director at Hamburg, whilst, Mr. Hick being on leave in Europe, Mr. Goldenberg has taken charge of affairs in Medan.

Amongst the more important agencies the firm holds may be mentioned the Nord-deutscher Lloyd, the Hamburg-Amerika Line, the Canadian Pacific Railway Company, the Kali-Syndikat G.m.b.H., Stassfurt, the Langkat Petroleum Works, and a number of first-class Dutch, German and English insurance companies.

KERKHOFF & CO.

ESTABLISHED about 1897, by Mr. B. H. Kerkhoff, who had previously had some twelve years' business experience in Padang, the firm of Kerkhoff & Co. have now gained for themselves a distinct and recognised place among the commercial houses of Sumatra. As general importers and merchants they transact a considerable business with the estates surrounding Medan, while, in addition, they are Government and military contractors,

Company are those for Lindeteves, Semarang, machinery, agricultural and industrial implements and the famous Thermos flask; Eigen Hulp, Batavia, djatti and rattan furniture; Maul, Weltevreden, cement tiles; Ravensway, Singapore, marble works; E. L. De Vries, Amsterdam, silk and woollens; Lugard, Deventer, butter; Bicker & Moddermann, Amsterdam, wines; J. van der Veen, Dokkum, gin; Nederlandsch Ind. Houtaankap Maatschappij, Semarang, djatti-wood; Greenfield & Co., Hongkong, China-rattan; head agency of the Nederlandsche Spaarkas Insurance Company; Post van der Linde, Kampen, cigars.



OFFICE OF KERKHOFF & CO. (J. C. F. CARRIÈRE, MANAGER).

HUTTENBACH & CO.

WITH a record of thirty-five years behind them, Messrs. Huttenbach & Co. may justly claim to be one of the oldest-established

HANDELSVEREENIGING F. KEHDING.

THIS firm was established in October, 1880, under the style of F. Kehding, and the founder commenced business in Tandjong

Poera, the sea port of Langkat, as agent for the Ocean Steamship Company (Holt Line of Liverpool); also as a general merchant. In April, 1881, the agency of the Shipping Company in Deli being relinquished, the business was transferred to Labuan—Deli. In the following year a branch was established in Bindjei, in Upper Langkat, which has been maintained since; and in 1883 an agency was opened in Medan. From 1883 till 1886 the firm also had a branch office in Tandjong Poera. With the opening of the Railway line from Medan to the coast in the year 1885, a branch office was opened at Belawan, the harbour of Deli. In 1893 the Labuan head office was transferred to Medan, the business at Labuan being closed. Two years later, Mr. Gustav Kehding, a brother of the founder, joined the firm as a partner, after previous twelve years' service as an employee, but he relinquished his connection with the business in 1900, having decided to settle in Europe. In the year 1906, the firm was formed into a company under the style of Handelsvereniging F. Kehding, Messrs. F. Kehding and C. Siegmund being nominated directors. Mr. Siegmund, after about ten years' service with the old firm as assistant and as procurator-holder, was entrusted with the management of the Company's operations in India, Mr. Kehding taking charge of the European business. From the year 1885 till 1897, the firm fulfilled the functions of the German consulate.

The business transacted has been of a very various nature from the beginning; but estate agency and shipping have always been the main interests of this concern, the firm representing the Ocean Steamship Company, Limited, and the China Mutual Steam Navigation Company, Limited, of Liverpool; also the Messageries Maritimes de France, of Marseilles. A large volume of fire and marine insurance also has always been a feature of this business, the firm having held for many years the agency of the Commercial Union Assurance Company, Limited, as well as of several other insurance offices. The Company is part proprietor of the Sungei Rawa Saw Mills, situated on the Sumatra coast, opposite the town of Malacca, and is dealing largely in cut wood as well as timber for building purposes; also in attaps (a roof-covering material), cement, and all kinds of iron goods of European manufacture for use in building operations in the tobacco fields and on the coffee and rubber plantations.

HANDEL MAATSCHAPPIJ DELI-ATJEH.

As universal providers of the most approved type, the Deli-Atjeh Trading Company would be hard to beat. It is true that the business is entirely a wholesale one, but a casual saunter through their godowns is a revelation. Swedish matches and soft goods of all descriptions stand cheek by jowl with tobaccos and mineral waters. Nestle's and "Milkmaid" milks jostle against Huntley & Palmer's and Patria biscuits and Van Houten's cocoa, while various brands of vinegar are in company with Eau de Cologne and cigarette papers. Ironmongery, hardware, and earthenware look down disdainfully upon ordinary wire nails, while a thousand specimens of elegant crockery and glass ware regard with scorn such mere necessities as candles and soap. The Company's soft goods, it may be mentioned, come chiefly from Manchester and Twente (Holland), while it also has a large assortment of confectionery from Messrs. John Gray & Co., of Liverpool. The firm represents the Central Agency of Glasgow, the Algemeene Verzekering Maatschappij Providentia, the

Netherlands Assurance Company, the Verzekering Sociëteit de Amstel, and the Noord en Zuid Hollandsche Transport Verzekering Maatschappij.

Another and most important part of the business concerns the development of Atjeh, whence the firm imports wood for the building of sheds in the tobacco plantations, as well as attap for roofing purposes. It also has a concession for oil mining, and what is more important still, its operations in this direction have recently resulted in the discovery of some valuable wells. The firm was established in Amsterdam by Messrs. H. J. Nolte and J. H. Haas, and was converted by them into a limited liability company, with a capital of 500,000 guilders, in January, 1905. The founders still remain the joint managing directors, while the general manager is Mr. H. S. Haas and the assistant manager Mr. J. L. Zeeuw van der Laan. Branches of the Company have been opened at Belawan and Atjeh.

(estate implements); Valvoline (machine oils); the Oliver Typewriter, Roneo Company; Kupperberg Gold (champagnes); Dukkens & Sons (wines); Dahl's condensed milk; The Isle of Skye whisky; and the London and Lancashire Insurance Company.

COMFIELD BROS.

ESTABLISHED in 1802 by the late Mr. W. Comfield, this firm now owns the largest tailoring and outfitting establishment in Medan, and include among its *clients* the household of the Sultan of Deli. The firm's principal buying agents in Europe are Carl Frederich (Dresden), A. Wagner & Co. (Hamburg), Aug. Kiebull (Pforzheim) and Dormenil Frères (Paris and London).

Messrs. Comfield Bros. also conduct a large business in gold, silver, and bronze goods, household furniture, lamps and pictures. The present proprietors, Messrs. I. A. L. and E. Comfield, are sons of the founder of the firm.



1. J. L. ZEEUW VAN DER LAAN, Assistant Manager, H.M. "Deli-Atjeh."
2. TH. C. ARENSMA.
3. A. HERMAN DE BOER.
4. C. G. VAN HOUTEN, Managing Partner, Messrs. van Nie & Co.

5. EMIL OTT, Instructor, Riding Club.
6. R. F. E. ENNEMA, Messrs. G. H. Slot & Co.
7. H. S. HAAS, General Manager, H.M. "Deli-Atjeh."

G. H. SLOT & CO.

MESSRS. G. H. SLOT & CO., whose head office is in Pinang, have a wide circle of customers in and around Medan. Their local office was established two years ago by Mr. R. F. E. Ennema, who had previously held the position of accountant in the British Deli and Langkat Tobacco Company, and who has altogether spent some twenty years in Deli. Naturally he is widely known, and he has personally been responsible for the introduction of a large part of the firm's business with the estates in the neighbourhood. Amongst other important agencies which Messrs. G. H. Slot & Co. hold in Medan are those for "Apollinaris" Company; Mahler, Besse & Co. (cigarets and champagnes); Langenbach & Sohne (hocks); Carreras (tobaccos and cigarettes); A. & F. Parker & Co., Ltd., Birmingham

MEDAN HOTELS.

MEDAN HOTEL.

IN the native tongue, the Medan Hotel, which faces the Esplanade, and almost adjoins the railway station, is named the Roemah Makan, which means the house of food, and right well does it justify its title. An imposing two-storey building with sixty-two lofty, well ventilated bedrooms, the Medan Hotel is the oldest established hostelry in Deli, the favourite resort of the planter when he comes to town, the Mecca of the tired traveller, and the home of the *bon-vivant*. If a man is going home on furlough, or retiring, after a successful career, it is here that his friends feast him and bid him farewell, and it is here where on the first and sixteenth of every month, the holiday-seeking planters come



THE MEDAN HOTEL.

1. PRIVATE DINING ROOM.

2. PUBLIC DINING HALL.

3. BILLIARD ROOM.

4. FRONT VIEW.



HOTEL DE BOER, MEDAN.

to talk over events, to the accompaniment of bumpers of the best beer that ever left Europe. A speciality of the Medan Hotel is the supply of iced beer to the neighbouring estates. Every afternoon it sends away dozens of miniature barrels, charged with carbonic acid gas, and so packed that the contents remain thoroughly iced for many hours. The consignee is thus enabled to have his beer as fresh and as cool as if he were sitting in the hotel.

Adjoining the main building is a commodious private dining room, capable of seating more than a hundred guests, and rarely a day passes without its being used. The public dining room is an imposing banquet hall with twenty tables; the billiard room is fitted in the most modern style, and there is an excellent reading room, with English, French, Dutch, and German newspapers.

HOTEL DE BOER.

At the north-west corner of the Esplanade, and within a few yards of the Witte Club and the bandstand, is the Hotel de Boer, so named after its proprietor, Mr. A. Hermann de Boer. Of comparatively recent construction, the hotel is built on modern lines, its handsome dining hall and splendid bar lounge being the finest features to attract the casual visitor. To those, however, who intend to stay any considerable time in Medan, the bedrooms are bound to appeal. Each sleeping compartment is a compact bungalow in itself, perfectly ventilated, and free from outside noise. Tastefully furnished, and fitted with electric light and bells, and connected by covered verandahs with the main building, these bedrooms are a novelty in Eastern hotel life, quite unlike anything to be found

of Grumm's famous restaurant at Sourabaya. Mr. de Boer came to Medan eleven years ago, and established his business in quite a modest way. But it has grown to such an extent that the hotel boasts of forty bedrooms, and a custom of which the proprietor is justly proud and satisfied. At the time of writing arrangements are in hand for converting the business into a limited liability concern with a capital of G.200,000.

An important branch of the business is the outside catering, most of the big official functions being entrusted to Mr. de Boer. At the celebrations of the birth of the Royal Princess, the Club dinner, at which more than three hundred covers were laid, was satisfactorily carried out by him. The hotel is lighted by nearly four hundred lamps, has a special dining room for festal occasions, and possesses a handsome billiard room.



PREMISES OF THE NETHERLANDS TRADING SOCIETY AND F. KEHDING.

The gastronomic arrangements, for which the hotel is justly famed (notably for its special rice tiffins on Tuesdays), are in charge of M. Rohr, a Swiss chef, who was for several years in the kitchens of the Trocadero Restaurant, London. Mr. J. van Laer is in charge of the office, and the capable general manager is Mr. Hans Kahleke, who is well known in Singapore, and deservedly popular in Medan.

Established by a Mr. Vinck in 1888, the hotel is now the property of a limited liability company, directed by several of the most prominent commercial men in Deli. The present buildings are fitted throughout with electric light (more than 500 lamps being in use), while the bells and telephones, and the sanitary arrangements are as perfect as twentieth-century engineers can make them.

either at Batavia, Singapore, or Colombo. The old-fashioned mosquito curtains give place to a wire gauze frame, which is perfectly insect-proof, and makes sleep the comfort it ought to be.

In the cool of the evening the Hotel de Boer is the great rendezvous of Medan society. Seated on the lawn at a small marble-topped table one may moisten the parched throat with one's particular favourite of iced refreshment, listen to the band, and watch the promenade of Medan's beauty and fashion, the while the host moves about personally seeing to the comfort of his guests. This is the secret of Mr. de Boer's success. He is indefatigable, ubiquitous, and when the master is present the servants are bound to be quick and attentive.

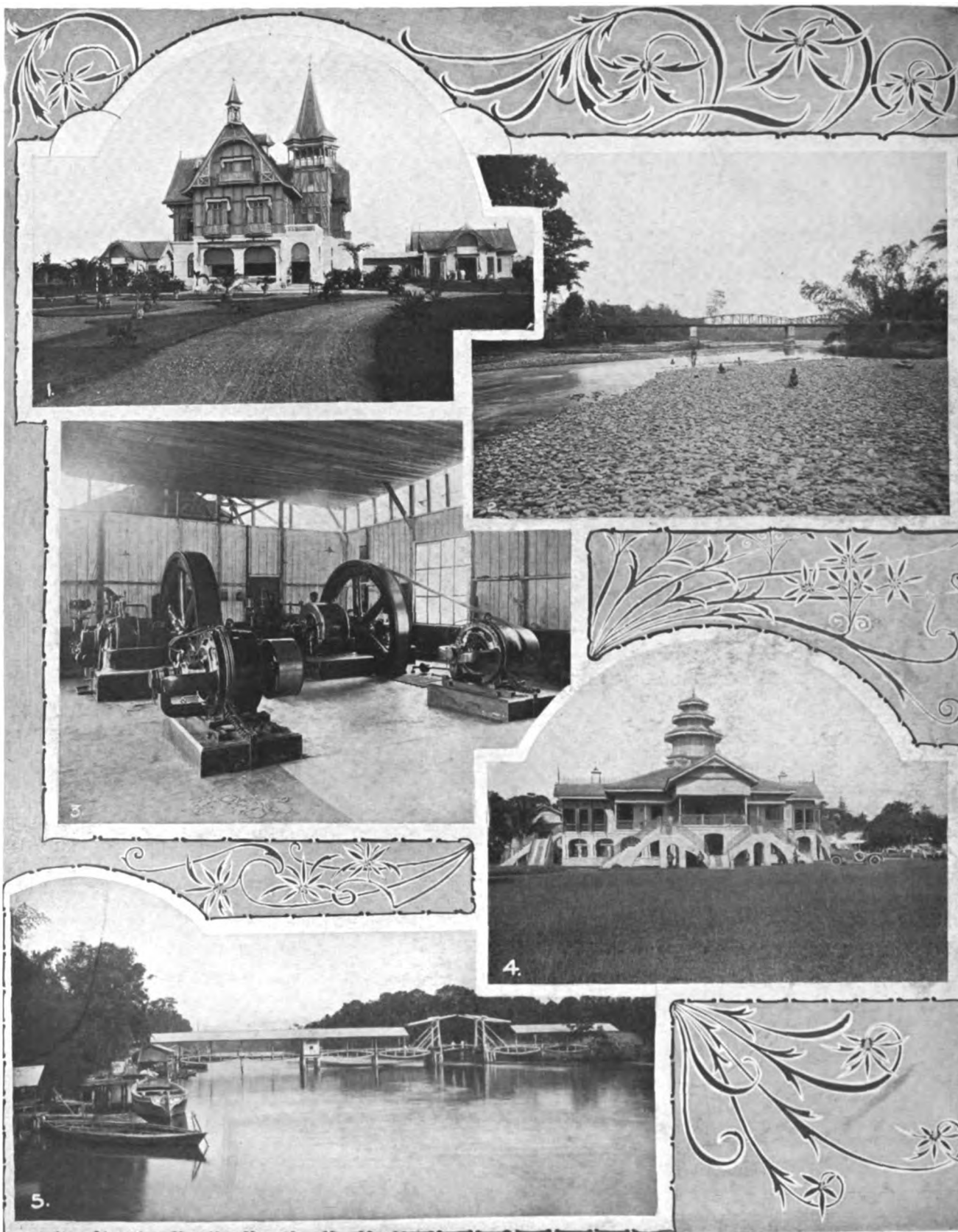
With a long experience as part-proprietor

It is only two minutes' walk from the station, and faces the new Post and Telegraph Office now in course of erection.

LANGKAT.

G. D. LANGEREIS & CO.

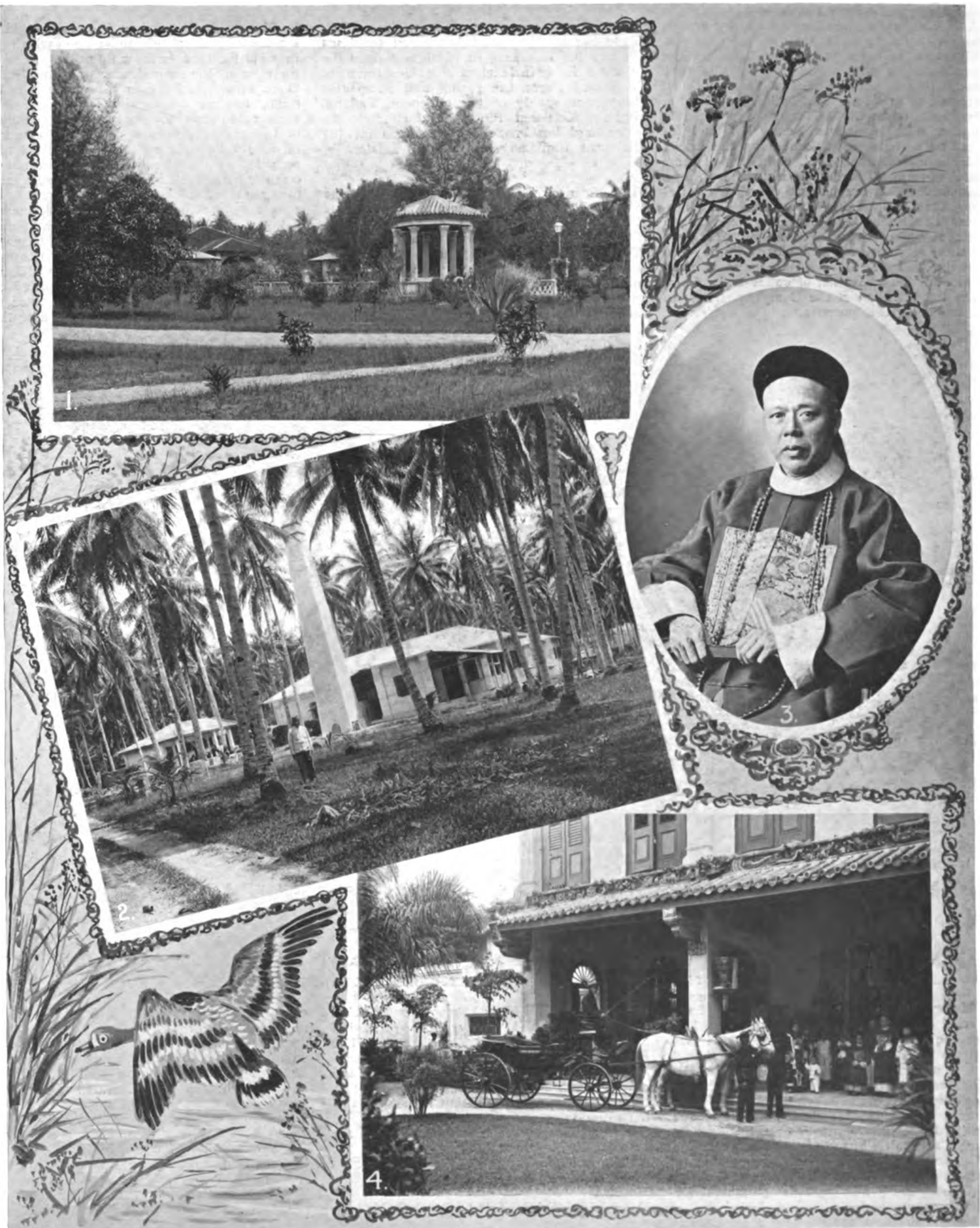
THE great possibilities which the East Coast of Sumatra held out in the early days of its development, to those imbued with enterprise and energy, attracted the attention of many, among whom was Mr. G. D. Langereis, who saw considerable scope for his industry and capital in the building line in and around Deli, Langkat, and the neighbouring provinces. He commenced business as a building contractor in 1890, and three years later was joined by Messrs. W. J. G. Frohn and



1. PALACE OF H.H. THE TOENGKOE BESAR OF DELI. 2. IRON BRIDGE ON BELAWAN ESTATE.
 3. ELECTRIC LIGHT INSTALLATION AT TANDJONG POERA. 4. SULTAN OF LANGKAT'S PALACE, TANDJONG POERA.
 5. BRIDGE AT TANDJONG POERA.
 (All designed and built by G. D. Langereis & Co.)



1. TJONG JONG HIAN, THE CHINESE MAJOR IN MEDAN, AND HIS SONS. 2 and 3. THE CHINESE MAJOR'S RESIDENCE AND GARDEN. 6. SWATOW RAILWAY, OF WHICH MR. TJONG JONG HIAN IS A DIRECTOR.



1. TJONG A FEE'S COUNTRY HOUSE AND GARDEN AT POELOE BRAYAN.

3. TJONG HA FEE, CAPTAIN OF THE CHINESE, MEDAN.

2. COPRA FACTORY AT POELOE BRAYAN.

4. TOWN RESIDENCE.

A. N. Langereis, when the firm became known as G. D. Langereis & Co. In 1899 Mr. Jas. Mys was appointed procurator-holder. The confidence of the public had by this time been fully gained, and the Company had erected several important buildings. As the business increased, the want of a separate timber department was keenly felt, and for that purpose the plot, known as the Boekit Menlenting contract land, consisting of some one thousand bouws of virgin forest, was acquired. This branch was extended in 1908 by obtaining on long lease from His Highness the Sultan of Langkat the Soengei Gergas timber estate with an area of 4,000 bouws, also covered with virgin forest; and as the soil of these two estates is well suited for the cultivation of coffee and rubber, it is the intention of the Company shortly to utilise it for that purpose.

service, and iron work of every description, including bridges, sheds, and iron buildings generally. The firm supplied and fixed the electric light installation for the town of Tandjong Poera, the piping and pumps for the water supply of the Gloegoer, Padang, Boelan, Kelahoen Pinang, and Bindjey Estates, and has erected iron bridges for the Belawan, Rimboeng, and Amplas Estates.

P. SANDEL.

THE firm of P. Sandel are agents for the Ocean Steamship Company, correspondents for the firm of Messrs. Van Nie & Co., and the Koninklyke Paketvaart Maatschappij in Tandjong Poera; and agents in Langkat for the Key-Brand Beer of the "Kaiserbrauerei," of Bremen. They also carry on an important import and export business, supply building material to the estates, and are the

in Medan, Deli, has had a career of public service in Netherlands India upon which he may justly look back with pride. Having early won the confidence of the Dutch Government, and being given authority by them, he has been able to do much in a variety of ways to improve the condition of the poorer classes of his fellow countrymen. By the Chinese he is respected and regarded as a leader, whilst the Government on their part have not been slow to recognise the good work he has accomplished. In 1904 they presented him with a gold medal, a token of their appreciation, which it may be well imagined Mr. Tjong Jong Hian prizes very highly. Born in Kainchew (Canton) in 1855, Mr. Tjong Jong Hian left China for Batavia as soon as he had completed his education. In Batavia he was engaged in various occupations, including for a time that



See page 573.]

STORES OF THE HANDEL MAATSCHAPPIJ DELI-ATJEH.

Messrs. G. D. Langereis & Co. have carried out many important contracts, including the erection of four mosques, and two palaces for His Highness the Sultan of Langkat, a mosque and a country house for His Highness the Sultan of Deli, a palace for His Highness the Toengkoe of Deli, residences for the general managers of the Amsterdam-Deli Company and the Arendsburg Tobacco Company, houses for managers of various estates, tobacco barns, hospitals, the offices of Guntzel & Schumacher, the "Witte" Club, and various buildings for the Government of Netherlands India.

In 1902 the firm acquired the chief agency for Messrs. Geveke & Co., of Amsterdam, which enables them to supply complete electric installations, all requirements necessary in the construction of a water supply

owners of large timber concessions in Achin and Tamiang and of a rubber plantation known as the Tandjong Poera Estate. The extent of their timber trade may be gauged from the fact that five steam launches and nineteen lighters are constantly employed in the transportation of the timber and "attap" from the various concessions.

The business was established in 1885, the partners being Messrs. P. Sandel, A. P. Brandt, and A. Glaser.

PROMINENT MEMBERS OF THE CHINESE COMMUNITY.

MR. TJONG JONG HIAN, or **MR. TJONG JOK NAM**, as he is often called, the Chinese Major

of a licensed pawnbroker, and in 1877, at the early age of twenty-two years, he was appointed by Government head of the Chinese community in Onrust. Leaving Java for Sumatra in 1880, he was, four years later, chosen Lieutenant of Chinese in Medan. In 1893 he was promoted captain, and five years afterwards attained his present rank. Mr. Tjong is a member of the Supreme Court (Landraad) and of the Cultuur Raad, Medan, and it is interesting to note that he has served under no less than nine Residents. The Chinese Captain, Tjong A Fee has been closely associated with the Major in carrying out his philanthropic work, and, together, the brothers have subscribed the money for building a hospital, a Chinese temple, a club, and cemetery in the town. A shrewd business man, Mr. Tjong Jong Hian is the

sole proprietor of the well-known firm of Chong Lee and the owner of a sago plantation and factory, and a rubber estate, both of which are situated in Samajin, Kedah. He is also a director of the "Deli Bank" and of the "Tjau San Tek Loo," a Chinese railway company with lines running between Swatow and Tjau Tjoe Hoe, of which Mr. Tjong Jong Hian's son, Mr. Tjong Hau Liong, who holds the rank of Taotai, and is sometimes known as Tjong Poe Tjong, is the acting director. Mr. Tjong Jong Hian possesses considerable property in and around Medan, a summer house at Petisah, surrounded by charming gardens, and two other large and beautifully furnished residences.

MR. TJONG A FEE, the Chinese Captain in Medan, and his colleagues, are personally

factory at Poeloe Brayan, and is contemplating the erection of a soap manufacturing plant. In addition, he controls all the opium and spirit farms in the district. He is married and has six children.

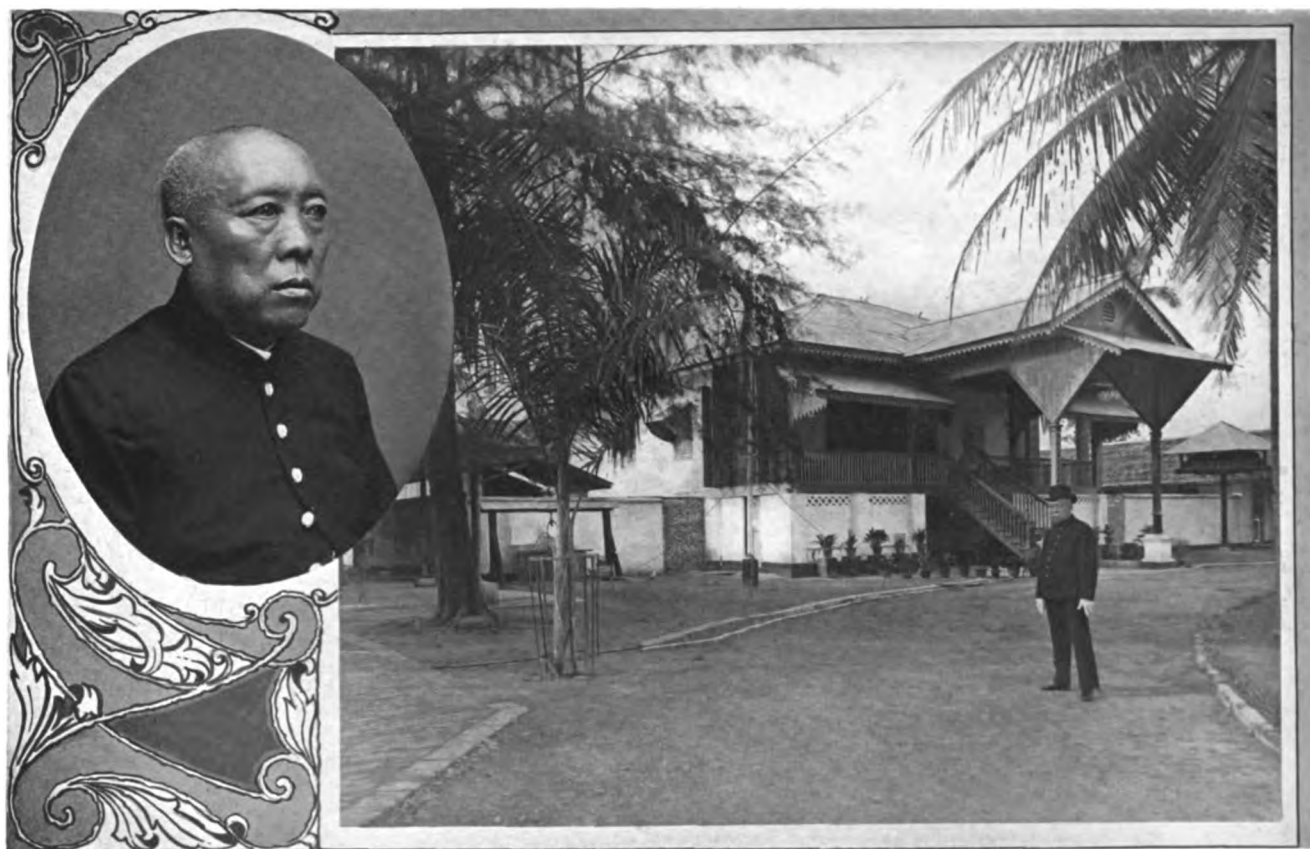
MR. LIM TJING KEH, the Lieutenant of the Chinese at Bindjey, Langkat, was born in Pinang in 1856. He is the owner of considerable property in Bindjey, Kwala, Kedeh, and Pinang.

MR. TIO TJIN SENG, the Chinese Lieutenant at Tebing Tinggi, is the son of the late Tio Hoet Sioe, who previously occupied the same position. At one time, Mr. Tio Tjin Seng was an interpreter at the Magistrates' Court at Tebing Tinggi, and in 1904 was promoted to an official rank in the Chinese

throughout the East Coast of Sumatra. Born in 1874, Mr. Khoo Cheng Tek is the son of the late Mr. Khoo Teng Ko, Titular Lieutenant of Chinese in Laboean, Deli, who died in 1893 at the age of forty-four years. He takes a great interest in all questions affecting the welfare of his countrymen, and is a generous subscriber to charities. Among the various public positions he holds is that of president of the Mandarin School. Mr. Khoo Cheng Tek possesses considerable landed property; his house, "Kingsley," stands on an excellent site on the Medan Esplanade.

THE SENG HAP TRADING COMPANY, LTD.

PERHAPS there is no Chinese firm on the East Coast of Sumatra so well-known to day as the Seng Hap Trading Company, with



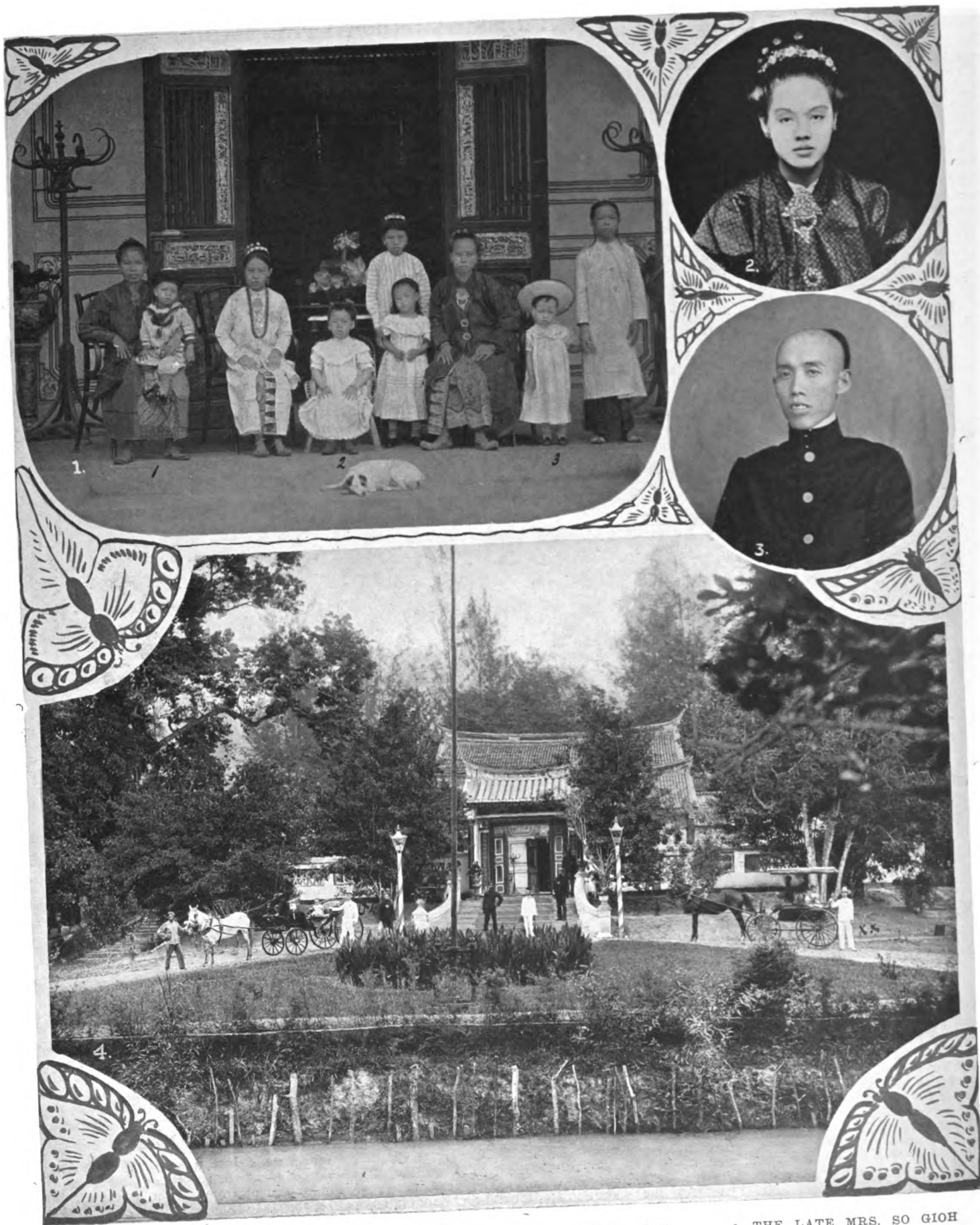
LIM TJING KEH, THE CHINESE LIEUTENANT AT BINDJEY, AND HIS RESIDENCE.

responsible to the Dutch Government for the good behaviour of the natives of the Celestial Empire who abound in the locality, and it speaks much for the tact and discipline used, that their compatriots are good citizens. The Captain is a man of fine physique, and when arrayed in his full regalia makes a most imposing figure. He is 40 years of age, and was born in Chang Haow. Thirty years ago he migrated to Deli—then a mere stretch of jungle. In 1888 he was made lieutenant, and twelve years ago was promoted to his present responsible position. Mr. Tjong A Fee is popularly supposed to be immensely wealthy; he owns a great part of the residential property in Medan, and is prominently associated with many important industrial concerns, notably the Swatow Railway and the Deli Bank. He owns a copra

Camp at Bandar Chalipa. He received his present appointment in 1908. Mr. Tio Tjin Seng, who is possessed of considerable wealth, is a man of wide experience and considerable knowledge of public affairs.

MR. KHOO CHENG TEK, the recognised leader of the Hokien Chinese in Deli, is the proprietor of the flourishing firm of iron-mongers and timber merchants carrying on business under the style of Khoe Tjin Tek Chop "Kang Chan." The headquarters of the firm are in Medan, and there are branches at Belawan and Bindjey, in Deli, and at Perak in the Federated Malay States. In addition to these interests, Mr. Khoo Cheng Tek is the owner of large shares in several revenue farms, and his name is well known as a smart, up-to-date man of business

its head office in Medan, Deli, and branches in Bindjey and Pangkalan Brandan. In 1881, Mr. Tan Tang Ho, the present director of the Company, started business as a draper under the name "Hap Seng." Five years later provisions and liquors were added to the stock-in-trade, and the following year a branch establishment was started at Bindjey, a place about eight miles from Medan. In 1904 a retail store was opened in Pangkalan Brandan—a small thriving town some 55 miles distant from Medan, where the Royal Dutch Petroleum Company have many interests. Two years later another shop was added, but in this same year, 1906, the "Seng Hap Trading Company, Ltd." was formed with a capital of F1 200,000 in F1,000 shares to take over these different ventures. Recently the business has increased very rapidly.



1. FAMILY OF TIO TJIN SENG (1. TIO TJING HOEN; 2. TIO TJING HOE; 3. TIO TJING LAU).
 2. THE LATE MRS. SO GIOH
 3. TIO TJIN SENG, LIEUTENANT OF THE CHINESE AT TEBING TINGGI.
 4. THE RESIDENCE AT TEBING TINGGI, DELI.
 GOE, WIFE OF TIO TJIN SENG.



1. BUSINESS PREMISES KNOWN AS KHOO TJIN TEK.
3. KHOO CHENG TEK.

2. KHOO CHENG TEK'S PRIVATE RESIDENCE.
4. THE FAMILY GROUP.



BUSINESS PREMISES AND FAMILY OF SENG HAP.

and in addition to the retail trade the Company deals largely in sugar, tobacco, Java and China tea, mats, gambier, and numerous products from Europe, America, and Australia, and holds agencies for P. Alma, Azn, Amsterdam, cigar manufacturers; Frister & Rossman; the "Sun" typewriter; the Groningen cycle factory, A. Fonger's, Groningen, Holland; the Manufacturers Life Insurance Company, of Toronto, Canada; and the Singer Sewing Machine Company, of New York, U.S.A.

The Company's premises in Medan cover an area of fully 7,680 square feet, and are lighted throughout by electricity. A staff of over thirty-six packers and seventeen messengers is employed. The General Manager, Mr. Gan Eng Tjahn, and the chief representative, Mr. Siauw Sin Tjeng, are, like Mr. Tan Tang Ho himself, members of the Tiong Hoa—a Chinese Association, which devotes its energies very largely to increasing the educational facilities for the Chinese in Netherlands India.

Apart from the successful undertakings mentioned, however, Mr. Tan Tang Ho has other interests. In 1897 he acquired the contract for the farming of spirits in the East Coast of Sumatra for a period of three years, and in the same year started on his own account a business in "attap," for which article there is a great demand in Medan. He is president of the Hoa Siang Hak Tong, of Medan. All his children are being educated in the English language.



ONE OF P. SANDEL'S STEAM LAUNCHES USED FOR CARRYING FREIGHT AT TANDJONG POERA.

SUMATRA WEST COAST.

To the traveller purely on sight-seeing bent, the Western Coast of Sumatra offers some of the finest and most rugged scenery in the

the eye is delighted with range upon range of verdure-clad mountains, many of which hide their peaks in the clouds, and the mind

little to write. It was evidently planned on a scale which anticipated future greatness and wealth. But it has faded away until in this year of grace it is little more than a sleepy village dumped on to what was once intended to be the site of a great Eastern city. Its business transactions are small and wholly native, and were it not for the really persistent and praiseworthy efforts of the general manager of the coal mines at Sawah Lento to encourage the output of his colliery, there would be little inducement for steamers to call at the port.

Situated some six miles from Emmahaven, bounded on two sides by the Indian Ocean, and on the others by majestic mountains, Padang is a beautifully laid-out town, with excellent sanitary arrangements, two comfortably furnished clubs, a really good hotel, and a delightful climate in spite of the fact that it lies practically on the equator. Compared with Deli, the Straits Settlements, and the coast towns of Java, Padang is cool and healthy, while within easy distance of it the hill stations, well served by the railway, offer attractions in the way of climate that are almost unique. This is particularly true in the case of a charming little cantonment named Fort de Kock, to which we shall have occasion to refer later.

To those in search of sensation it should be mentioned that Padang specialises in earthquakes, for although no serious disaster has been recorded here, slight shocks are continually being felt. In May, 1909, there was a particularly severe shaking, and a week later came the news that a whole Chinese village, situated about a hundred miles from the town, had been swept out of existence.

In Padang there is nothing for the visitor to see or do, but by taking train to Padang-Pandjang, 74 miles distant, he can obtain

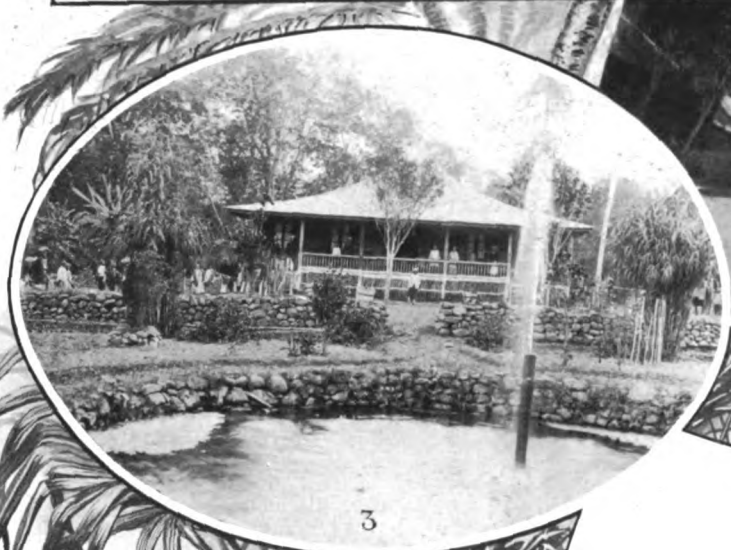


A ROAD SCENE, SUMATRA.

world. From the moment the steamer enters the Straits of Sunda—the scene of innumerable volcanic disasters—until the pretty toy-like resting place of Emmahaven is reached,

is filled with wonder at the greatness of nature in its wildest state.

Of Padang itself—Padang is the seat of the West Coast Government—there is but



SUMATRA WEST COAST.

1. NATIVE VILLAGE.

4. MOUTH OF RIVER.

2. IN THE NATIVE QUARTER.

3. TYPICAL EUROPEAN RESIDENCE.

5. A BUSINESS THOROUGHFARE.



GEBROEDERS VETH.

1. OFFICES AND STOREROOMS.

2. UNLOADING COPRA AND CLEANING RATTAN AT THE FIRMS WHARF.

3. SORTING COFFEE FOR EXPORT.

4. MR. J. SCHIED'S RESIDENCE.

views, *en route*, of scenery such as bring to mind the North of Scotland or Switzerland. A distinguished traveller has put it upon record that no more splendid counterpart to the celebrated Gotthard Strasse from Goshenen to Andermatt exists than the road through the gap of the Aneh River from Kojoe-Tanam to Padang-Pandjang (2,200 feet above sea-level). In one respect, however, the Aneh Pass excels, for, whereas in Switzerland the rocky walls of the Reno Valley rise bare along the road, the slopes here, which are almost as steep, are covered with thick and luxurious vegetation. On the St. Gotthard the song of the stout Switzer is heard; the Aneh Pass resounds with the shrill laughter of big black bush apes. In Switzerland the snowy tops peep every now and then over the rocky walls; at Padang-Pandjang we see the giants Tandikat (7,925 feet) and Singgalang (9,350 feet) on the left, and Ambatjong (5,120 feet) on the right, rearing their dark indigo tops high in the air, while below us the mighty Aneh sweeps grandly on its way to the sea. The great charm of this railway trip is the fact that the carriages are pushed up by means of a rack rail, with the engine behind, and that a clear view of the marvellous scenery is obtained from the front verandah of the car upon which the visitor travels.

Just before reaching Andermatt on the Swiss Railway, the traveller enters upon the bare mountain plateau behind which lies the lumbering snow-covered back of the St. Gotthard; here he rides over the plain behind which rises the even more imposing forest-clad Merapi, whose top, instead of being covered with snow, is strewn with volcanic ejections. Above this the spiral curl of the crater smoke hangs in the heavy blue air. The whole journey from Padang to Padang-Pandjang occupies three hours.

In order to ascend this highly interesting volcano, which rises 9,393 feet above the sea, and which has been tolerably quiet since 1876, notice must be given to the Laraschief of Soengei-Poera at least one day in advance, so that he may make the necessary arrangements for the mountain ascent, *i.e.*, guides, coolies, night lodgings, meals, &c. On the appointed day the visitor goes by rail to Kota-Bahroe (3,720 feet above sea-level), and on by car (Fl. 5 there and back) by the gently sloping road, about six miles long, reaching the house of the chief in an hour's time. About three o'clock the ascent of the mountain is commenced through a dense wood, and before dark the highest inhabited hut (about 5,000 feet above sea-level) is reached. Here a halt is called for the night, the journey is resumed at break of day and two hours afterwards the summit is reached. The descent to Soengei-Poera takes three hours. A car is waiting which conveys the traveller to the train at Kota-Bahroe from where it is an hour's ride to Fort de Kock.

As has been previously indicated, Fort de Kock is an extremely healthy place, owing to its cool mountain climate. It possesses an extensive military encampment, a seminary for native teachers, a small hotel with fair accommodation, a large native market, and a pretty racecourse. It is a good central point for excursions to Kota-Gedang, which is reached by car; to the village of Kota-Bahroe, the houses of which are covered with galvanized iron, the shiny roofs being seen from some distance; to the Karbouwengat; or to the lake of Manindjoe, the most beautiful of all. If one is lightly clad he will be no more troubled by the heat of the sun than

he would be in Switzerland during the summer months, and here as well as there fresh mountain breezes cool the hot forehead while the eye is fascinated by the view.

The lake of Singkarak, which is also easily reached from either Fort de Kock or Padang-Pandjang, is generally as smooth as a river and exceeds the lake of Thun in size, as it does in beauty. From the north the mighty volcano Talang may be seen rising at the water's edge, whilst on the west bank, the ridge of the Barisan, 3,000 feet high, closes the lovely panorama. The railway descends over the bridge of the Oembilin river, as far as the east bank, and follows it in graceful curves, so that at one time the whole width of the lake comes within view.

H.E. THE GOVERNOR.

H.E. MYNHEER F. A. HECKLER, the Governor of the West Coast of Sumatra, has a record of more than thirty years distinguished service



H.E. MYNHEER F. A. HECKLER,
GOVERNOR OF THE WEST
COAST OF SUMATRA.

under the Dutch Colonial Government. Born in 1855, he was educated at Leyden, Holland, and at the age of twenty-two was appointed an "aspirant controleur" in the Residency of Palembang. In due course he was promoted a "controleur," and served in this capacity both in Deli and in the island of Banca. Subsequently he became Assistant Resident in Achin, then Resident of Timor, and finally, in 1905, was given his present important position. On several occasions His Excellency has received from the Government very gratifying acknowledgment of the value of his services; for the good work he accomplished in Achin he was created an Officer of the Order of Orange-Nassau; for valuable assistance rendered in connection with various military expeditions in Timor he was made a Knight of the Military Order of William, and in recognition of his excellent adminis-

tration on the West Coast of Sumatra he has been admitted into the Knighthood of the Order of the Netherlands Lion.

GEBOEDERS VETH.

ONE of the most important of the few mercantile houses on the West Coast of Sumatra is that of Gebroeders Veth, or as it is in English, Veth Brothers. It has been in existence for upwards of twenty-four years, and has established for itself a high reputation both in Netherlands India and in Holland. The head office is in Amsterdam, and in addition to the house at Padang there is a branch at Macassar. The firm conducts a large import and export business, dealing in all kinds of native produce principally coffee, spices, hides, rattans, copra, and gum. In addition, Messrs. Gebroeders Veth are local agents for the N. D. L. Australian cargo steamers, and represent several important life, marine, and fire insurance companies.

The partners are Messrs. B., F. H., J. C., and C. G. Veth (all of whom are at Amsterdam), and J. Schild, who is the resident representative at Padang. In the local office Mr. W. P. Broeder signs *per pro.*; and at Macassar Messrs. H. Adelinck and H. C. de Groot hold powers of attorney. Mr. Schild is Consul for Germany, and American Consular Agent. He has lived for twenty-one years in Padang, and is one of the best known and most respected residents in the district.

MAATSCHAPPIJ VOOR HANDEL AND INDUSTRIE.

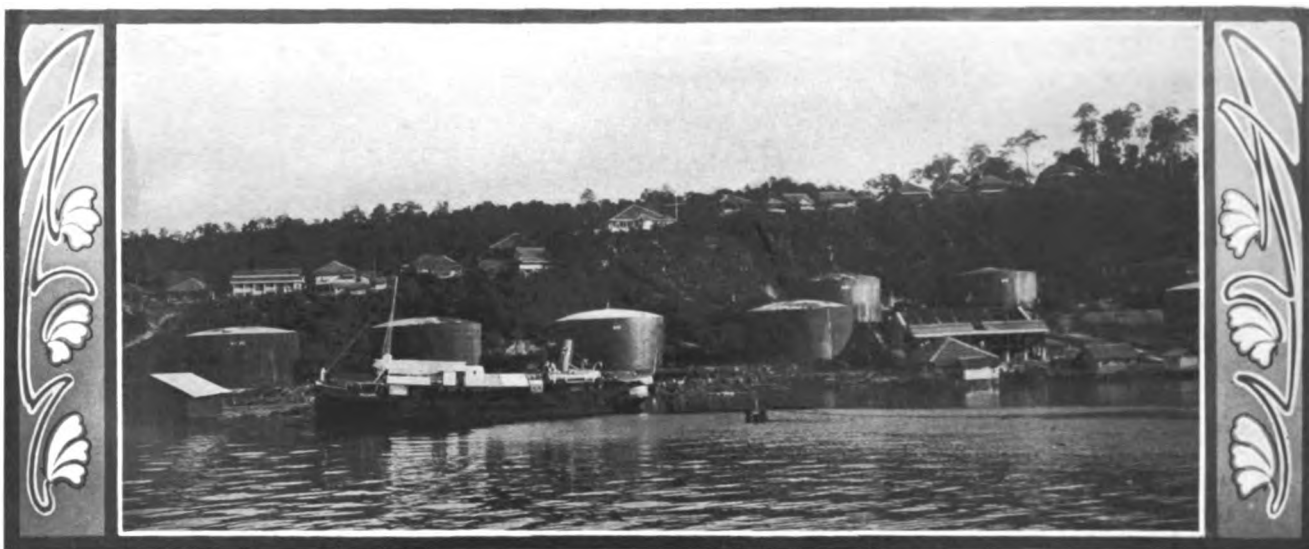
THIS firm were established in Padang in 1900 with a capital of Fl. 200,000 fully paid up. As exporters they deal principally in all locally grown products, such as copra, coffee, cassia, hides, rattans, gum damar, gum benjamin, nutmegs, mace, and indiarubber, while as importers they handle large quantities of rice, galvanised corrugated iron sheets, metal, and hardware.

They are owners of a small fleet of lighters and two steam launches, one of which runs regularly to the neighbouring coast places, while the other serves as a tow-boat for the lighters.

The firm also have a steam rice mill, a steam saw mill, a cocoanut oil factory, and several estates. One of the estates is planted with 30,000 rubber trees, a number of which are already being tapped.

VAN HOUTEN, STEFFAN, & CO.

ESTABLISHED so far back as 1871, the firm of Van Houten, Steffan & Co. rightly claim to be one of the oldest European houses in Padang. The founders of the business were Messrs. P. J. van Houten and R. Steffan, who subsequently made way for Messrs. H. Schiess and H. D. Schluter, the managing partners at the present day. The firm act as local agents to the Deutsche-Australie Line of steamers, the Royal Insurance Company, and the Norddeutscher Insurance Company, and also have charge of the increasing business of the Padangsche and Sumatrasche Insurance Companies. They own two coffee mills at Padang, and extensive coffee estates in the highland country adjacent, and are directors of a considerable acreage of cinchona property in Java. But all these enterprises it must be remembered are apart from the firm's legitimate business, which is the import and export of manufactured goods and produce of various descriptions. A huge local trade is done in soft goods and hardware imported from Europe, and the export trade embraces almost every kind of native produce.



BALIK-PAPAN, EAST BORNEO.

DUTCH BORNEO.

WITH an area of some 200,000 square miles, more than double that of the United Kingdom, Borneo, situated in the middle of the Eastern Archipelago, is the second largest island in the world (leaving Australia out of the category), being only exceeded in size by New Guinea, its not distant neighbour. To the south, across the narrow Java Sea, is the principal Dutch possession in these seas; while Sumatra, across the Strait of Karimata, slopes away from the south-west. North-east, across the China Sea, and partly intervening between the upper portion of Sumatra, stretches the Malay Peninsula, with Singapore on a level with the centre of Borneo. On the other side, the Strait of Macassar separates the island from Celebes. The equatorial line runs through the centre and widest portion of Borneo, the island narrowing northwards to $7^{\circ}4'$ North, while the wider southern half extends to $4^{\circ}20'$ South. The total length of the island is about 800 miles, the greatest breadth being 600 miles. Though there are several wide bays, the contour of the coast is generally free from abrupt indentations. The character of the country is mountainous, with dense forests covering the slopes and descending into the valleys, and many large rivers run from the high inland watersheds to the sea. Although it was discovered by the Portuguese as long ago as the beginning of the sixteenth century, the island has not yet been thoroughly explored, most of the settlements being on the coast. Of the total area, some 200,000 square miles, or rather more than one-third, forming the western, southern and eastern portions, is possessed by the Dutch. In the north-west, with an extensive coast-line, is the British protectorate of Sarawak, with an area of about 50,000 square miles; to the north are the Sultanate of Brunei (3,000 square miles); and 30,000 square miles of territory belong-

ing to the British North Borneo Company, a chartered corporation.

The population of the whole island is estimated at about two millions, of which total considerably more than half is included in the Dutch territory. Various races are represented in the composition, Dayaks forming the largest proportion, with Malays next, and then Chinese. There are also Kyans and Negritos, besides the Buginese, the aboriginals of Celebes. The European population of Dutch Borneo does not number more than about one thousand; but these, of course, are the ruling race, the Arabs coming second in order of dominance. The Chinese, who were the first people to deal with the early inhabitants of the island and settle among them, have developed this intercourse in the course of centuries, and with their genius for industrial and commercial operations they now form an important element of the population.

A feature of the geographical history of Borneo has been the gradual extension of the coast westward, near-lying islands having been united to the mainland and large tracts of land gradually reclaimed from the sea in the course of this movement. The centre of the island consists mostly of high table-land, traversed in different directions by ranges of mountains, some peaks of which attain to an altitude of 6,000 to 9,000 feet. Unlike its neighbours, Borneo has no active volcanoes; but many of the mountains have craters, most of which now form salt-water lakes. The numerous rivers in their courses from the central watershed form the high-ways of the country, being navigable for long distances from the sea, though the mouths are generally obstructed by sand bars. The geological formations are of the Tertiary period, the mountain rocks consisting of limestone, sandstone, slate, conglomerates, and syenitic granite. The mineral wealth of the island is extensive as well as varied, and mines have been opened in Sarawak and the

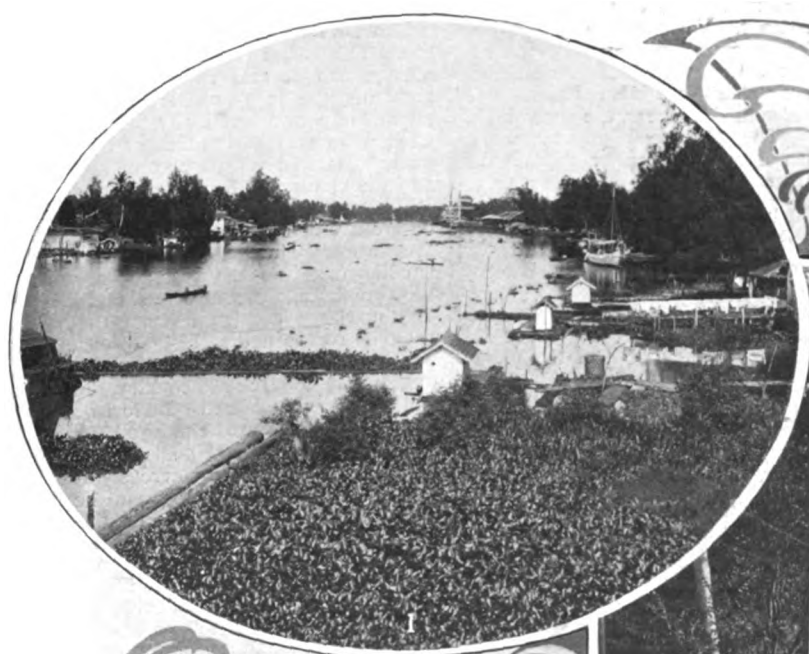
North Borneo Territory. The mineral deposits include diamonds and valuable metals — gold, platinum, copper, iron, tin, and antimony — also coal, petroleum, quicksilver, cinnabar, sulphur, and rock salt.

The forests of Borneo abound with animal life. The island is the home of the orang-outang and several species of large apes, including the long-nosed variety. The elephant, imported originally either by the Chinese in very early times or by the Portuguese in later days, has become acclimatised; and the rhinoceros is a native of the country. Wild oxen and pigs, as well as deer of different kinds, roam the primeval and endless tropical jungle, which also harbours smaller fauna of many kinds, of which the most noticeable are squirrels and civet cats. But no large carnivora haunt these forests, the only representative of the predatory feline species being a small panther. In this, as yet, mainly undeveloped country, few domestic animals are maintained. Bullocks, and sometimes buffaloes, are employed for haulage purposes. Sheep and goats are also raised. The reptile tribe is numerously represented by different kinds of snakes and lizards; and leeches and frogs swarm in the marshes. Mosquitoes, sandflies, stinging ants, and other tropical insects infest the woods and streams; while for gorgeous moths in immense variety the island is famous. Saurians inhabit the rivers and estuaries. The feathered demizens of Borneo are numerous and varied, ranging from the lordly eagle down to the flitting swallow, and including also vultures, falcons, owls, pheasants, partridges, ravens, crows, parrots, doves, and woodpeckers. The swallows build in the caves of the limestone hills. Their nests are esteemed by the natives as an article of diet, and command high prices in China.

Vegetable life is abundant in this tropical island, the products of the soil growing everywhere in luxuriant profusion. The durable ironwood found in the forests forms



RIVER SCENE AT BANDJERMASIN.



1. THE RIVER, BANDJERMASIN. 2. VIEW OF TOWN AND HARBOUR, BALIK-PAPAN.
3. MAIN STREET IN EUROPEAN QUARTER, BANDJERMASIN.

an article of export; and several varieties of palms, including the coco and sago, as well as fruits of many sorts, provide for the wants of the natives. The celebrated durian and the delicious mangosteen flourish, also yams, melons, pine-apples, bananas, pumpkins, and cucumbers. Among other products are cinnamon, cloves, nutmegs, pepper, gambier, sugar, betel-nut, camphor, cotton, tobacco, and rubber. Beautiful ferns of various kinds abound in the forests, where, too, rare orchids may be found. Rhododendrons and pitcher plants are among the other floral inhabitants of this fertile region.

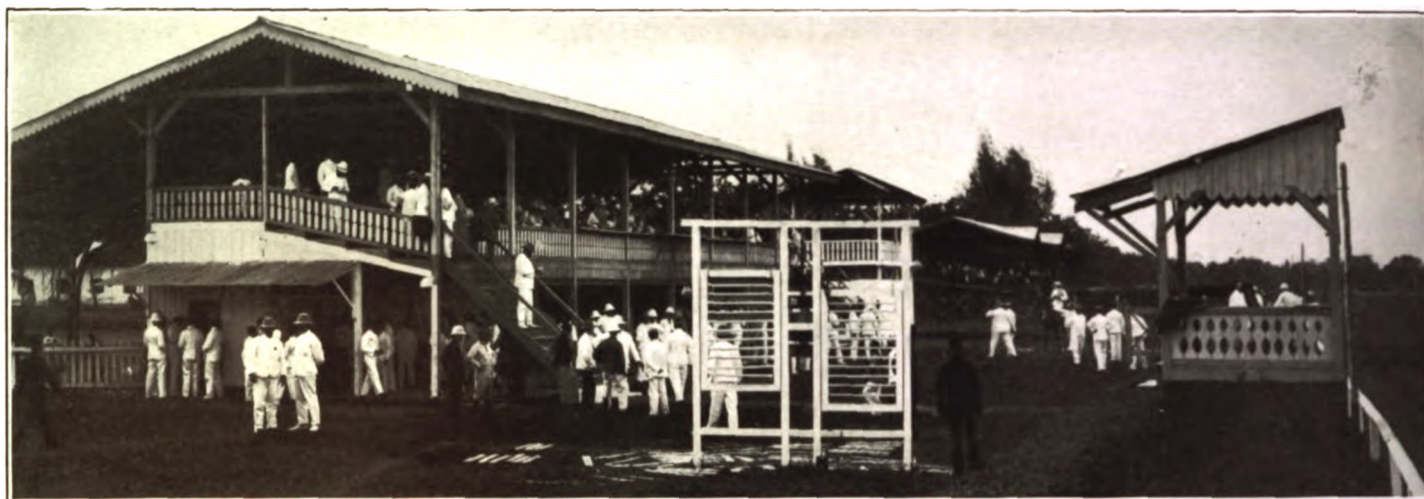
The climate of Borneo, although high temperatures are not often recorded, is oppressive because of its humidity. The noon reading on the equatorial line hardly ever exceeds 92° F., the mean temperature being 82° F. The atmosphere is always moist, as

rain falls all the year round; there is no defined wet season as in other tropical parts. The diseases from which the native inhabitants suffer are mainly due to the humidity of the climate coupled with their own uncleanly habits. Ninety per cent. of the natives supply the primitive wants by the labour of their own hands in rural pursuits; while the Chinese and Arabs between them monopolise the trading and industrial business in the Settlements. The native industries include spinning, weaving, dyeing, shipbuilding, the manufacture of agricultural implements and metal-work.

Since the Dutch first began to trade with Borneo in 1604, and established a Settlement on the West Coast, they have managed to maintain connection with, and generally direct the affairs of the island, though their sway has been more than once seriously threatened

by Britain, and even now they do not possess the whole of the island. The portion under their dominion is divided into two main divisions, the Western and the South-Eastern. The former, which comprises the Port of Pontianak, nearly opposite Singapore, and the district of Sambas, contains about 370,000 inhabitants, of whom 330,000 are natives and 38,000 Chinese. The much larger South-Eastern Division has a population of 810,000, of which 804,000 are native and about 5,000 Chinese. Each of these two divisions is subdivided, for administrative purposes, into a number of districts. The principal Settlements are on the coast; and the largest town in Dutch Borneo is Bandjermasin, on the south coast, which has about 50,000 inhabitants. This port has direct connection southwards with Sourabaya in Java.





GRAND STAND MEDAN RACECOURSE.

INFORMATION FOR TOURISTS.



IN the chapter on "Java" in another part of this volume, which deals generally with the island and its inhabitants, some description is given of the marvellous scenic beauty, the volcanoes, and other striking attractions of this wonderland of the Middle East; and in the archaeological section will be found details of the magnificent remains of the Borô-Budur—the great temple of Buddha—also the interesting ruins of Hindu temples in the central portion of the island. It only remains to show that a tour of Java can be pleasantly, easily, and inexpensively undertaken, and will leave behind ineffaceable impressions of charm and interest. On these points Miss Marianne North, the well-known painter and authoress, may be appropriately quoted. She says:—

"Java is one magnificent garden of luxuriance, surpassing Brazil, Jamaica, &c., with the grandest volcanoes rising out of it. One can ride up to the very tops, and traverse the whole island on good roads, by an excellent system, arranged by Government. There are good resthouses at the end of every day's journey, where one is taken in and fed at a fixed tariff of prices. Moreover, travellers are entirely safe in Java, which is no small blessing. No arms are necessary for self-protection anywhere in the island."

Situated somewhat off the beaten track of the globe-trotter, though easily accessible from Singapore—the great port of call for all vessels passing between Europe and the Far East—Java has not yet been overrun by tourists. Indeed the charms of this land of eternal summer and perpetual beauty, notwithstanding that it is embraced by Messrs. Cook & Son's system of world's tours, are not sufficiently known. Those who are contemplating trips to the Chinese Seas, Japan, and the Far East generally, are mostly ignorant that within a two days' run southwards from Singapore, through uncounted "isles of Eden," lies basking in the summer seas one of the most enchanting islands of the world, a country teeming with vividly picturesque life. Java possesses in a supreme degree tropical attractions of the same order as those of Ceylon and Japan, with which

much-visited and much-vaunted countries it has been compared favourably by the few writers who have made its delightful acquaintance. This island of the Dutch East Indies has, in addition, charms peculiarly its own.

Perhaps one reason for the comparative neglect with which Java has been treated hitherto, at any rate by world-touring Anglo-Saxons, lies in the fact that the island is not a British possession, nor intimately concerned with the commerce of the United Kingdom. Another reason may be found in the discomforts, annoyances, and expense of travelling in this country, which prevailed up to recent years, and were loudly denounced by returned tourists, but which have since completely disappeared with the extension of the railway system throughout the island, together with the withdrawal of vexatious restrictions.

Java can be entered either at the capital, Batavia, at the west end of the island, or at Sourabaya, the main commercial centre, on the east coast. Passengers from Australia and the south will come to the latter port, while those from Europe, India, and the Far East will arrive at Batavia, and start the tour from that point. Both ports are in direct and frequent steamship communication with Singapore, so that, having traversed the island from one end to the other, the tourist can travel directly back to that universal port of call, and thence continue his journey in either direction by any of the many lines of steamers continually passing through between Europe and the Far East, or he may make further excursions from Java to any of the other islands of the Netherlands Archipelago, all of which are worth visiting.

The passenger from Europe to Java may travel by the Rotterdam Lloyd direct fortnightly service from Rotterdam to Batavia. The vessels of this line leave Southampton every other Tuesday at 3 p.m., and call *en route* at Lisbon, also, on the passage through the Mediterranean, at Tangier and Marseilles. The voyage is continued via the Suez Canal, with short stops at Port Said and Suez, then eastward across the Indian Ocean, with a call at Colombo, to Padang, half way down the south-west coast of Sumatra. A two days' further run along the remaining length

of this littoral, and through the Strait of Sunda at the end, and Batavia is reached. The vessels of this line do not call at Singapore, which lies away to the north-east of the other side of Sumatra. The voyage out from Rotterdam by this route occupies thirty-six days, and from Southampton three days less. But the journey homewards is accomplished in slightly lesser time, both Lisbon and Southampton being omitted as ports of call, the steamers running direct from Tangier to Rotterdam. From the latter port returning passengers to England are given a free passage to London. The immediately previous call at Marseilles, however, admits of passengers for England and the Continent of Europe leaving ship at the French port, and travelling overland to their destinations.

The Rotterdam Lloyd steamers are well-equipped boats of from 3,400 to 5,400 tons, and are fitted with every convenience for both first and second class passengers. The fares are:—

To	From SOUTHAMPTON or LISBON.			
	First Class.		Second Class.	
	Single. £ s. d.	Return. £ s. d.	Single. £ s. d.	Return. £ s. d.
Padang, Batavia, Semarang or Sourabaya	65 0 0	97 0 0	37 10 0	64 0 0

To	From MARSEILLES.			
	First Class.		Second Class.	
	Single. £ s. d.	Return. £ s. d.	Single. £ s. d.	Return. £ s. d.
Padang, Batavia, Semarang or Sourabaya	61 0 0	91 0 0	33 0 0	55 10 0

The Steamship Company's Surtax of 10 per cent. must be added to the above fares.

Return tickets are available for two years.

CHILDREN.—Over twelve years, full fare; over three years and under twelve, half fare; one child under three years, free; and each additional child under three years, one quarter fare.

BAGGAGE.—Free allowance first and second class, 35½ cubic feet. Excess £1 10s. per 35½ cubic feet.

Return tickets are also available for the homeward voyage by the Netherland Royal Mail Line.

The Netherland Royal Mail Line also maintains a direct fortnightly service with Java, with vessels of from 4,400 to 5,800 tons, and well found in every respect, which, starting from Amsterdam, leave Southampton every other Tuesday (alternating with the Rotterdam Lloyd). They call *en route* at Lisbon, Genoa, Port Said, Suez, and Colombo. This line keeps to the main route to the Far East which passes round the northern point of Sumatra, where the vessels touch at Sabang, thence down the north-east side of that island, through the Straits of Malacca to Singapore. The further run southwards, from the latter port to Batavia, the terminal point, occupies two days. At Sabang there are connections by steamers with Deli, Asahan, Padang, and other ports on the north-eastern littoral of Sumatra; also with Penang on the coast of Malacca, opposite. The fares by the Netherland Royal Mail Line are:—

To	From SOUTHAMPTON or LISBON.					
	First Class.			Second Class.		
	Single.	Return.	Single.	Return.	Single.	Return.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Sabang, Pinang, Belawan-Deli, or Singapore ...	60	0	0	37	10	0
Batavia, Semarang, or Sourabaya ...	65	0	0	37	10	0

To	From GENOA.					
	First Class.			Second Class.		
	Single.	Return.	Single.	Return.	Single.	Return.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Sabang, Pinang, Belawan-Deli, or Singapore ...	56	0	0	33	0	0
Batavia, Semarang, or Sourabaya ...	61	0	0	33	0	0

The Steamship Company's Surtax of 10 per cent. must be added to the above fares.

Return Tickets available for Two Years.

Return Tickets interchangeable with the Austrian Lloyd are issued; particulars and fares will be furnished on application.

CHILDREN.—Between three and twelve years, half fare; one child under three carried free (no berth reserved); each additional child under three, one quarter fare (berth reserved).

BAGGAGE.—Free allowance, 35½ cubic feet. Excess, £1 13s. 4d. per 35½ cubic feet.

Also by the Rotterdam Lloyd, return tickets from Southampton are issued, but on the return voyage passengers are landed at Amsterdam instead of Southampton, and are granted a free passage to London by the Hook of Holland or the Flushing route. Return tickets are available for twenty-four months from date of departure till date of arrival on return at Genoa, and are not transferable. The tickets are also available for the homeward voyage by the Rotterdam Lloyd steamers. Holders of return tickets who do not use their ticket for the voyage home, will be refunded three-fourths of the difference between return and single fares, provided these tickets are presented before expiration of their validity. Abatements are granted to passengers who have paid the full single fare outward and return within six or twelve months, of 20 per cent. and 10 per cent., respectively, off the homeward passage rate. Passengers can break the journey at any port *en route*, and resume it within one month by any steamer of the same company in which there may be room. A surgeon is carried by all the steamers. Dogs are not conveyed by this company's steamers, nor by the connecting steamers in India of the Royal Packet Company. All baggage is conveyed at passenger's entire

risk, but can be insured at a low premium by the Company or their agents. Interesting guide books, in the English language, giving descriptions of the island of Java and detailing the excursions that may be made in the island, together with the necessary information about hotels, railways, &c., are supplied gratis by the Company to every passenger. The passage from Southampton to Genoa, including the stop at Lisbon, occupies about eight days, and from Genoa on to Java twenty-five days. At Port Said, Colombo, Sabang, and Singapore the steamers stop long enough for passengers to go ashore and see something of these places. An excursion from Europe to Java and back, occupying sixty days, would allow ten days for a tour of the island. The Netherland Company's agent for Great Britain is Mr. H. V. Elkins, 2, Panton Street, Haymarket, London, S.W., to whom applications should be made for passages and further particulars. Messrs. Thomas Cook & Son, whose headquarters are at Ludgate Circus, London, E.C., also are agents for all the shipping companies

Singapore to Batavia (only) by the French line, is £6.

Arrived at Tandjong Priok, the harbour for Batavia, the traveller will find that he has no difficulty in passing his baggage through the Customs, the examination being generally a mere formality. More probably he will be struck by the excellence of all the arrangements in connection with the berthing and discharging of vessels. Porters in waiting convey the baggage to the Customs House and the Priok railway station (charge for portage, 2d. each article). From the station trains run up to the city in about twenty minutes. Here the tourist is within fifteen minutes' drive of the principal hotels—the chief of which are the Hotel des Indes, Hotel der Nederland, Hotel Wiese, and Grand Hotel Java—and there are carriages always ready for hire.

A full description of Batavia, the capital of the Dutch East Indies, with its many interesting features and sights, is given in a section of this volume specially dealing with the city. It is a large town of modern aspect



KOMPIMENT STREET, DJOOJAKARTA.

having connection with Java, as well as for the railways of the island, and they will supply guide-books and all information.

If the traveller is making the voyage to Singapore by the Peninsular & Oriental or any other of the numerous steamship lines which call there, he can make the side trip from that port Southwards to Java by the steamers of either the Netherland Royal Mail Line, mentioned above, or the Dutch Royal Packet Line, or by a branch of the Messageries Maritimes Company's Line. At time of writing the tourist return fare by either of the Dutch lines from Singapore to Batavia and back from Sourabaya to Singapore, or vice versa, first class only, is ninety dollars (Straits currency), or, in British money, £10 10s. The return tickets for this trip, which, of course, do not include the overland tour through the island, are available for six months. The single fare, first-class, by either of the Dutch lines, from Singapore to Batavia, is £5 5s., and from Singapore to Sourabaya, £7 7s.; while the fare from

one of the finest in the East (the name means "Fair Meadows"), and an excellent tramway service (steam and electric) gives facilities for getting about from part to part.

Of the hotels of Java, which are all under Dutch management, with native servants, it may justly be said that they rival any, and surpass most in the East in cleanliness and general comfort, as well as the excellence of *cuisine*. Nor is the tariff high, the best accommodation, including baths, being obtainable for a charge of six guilders (10s.) per day. There are a few extras, and the servants expect small tips. The charges for liquors are also reasonable. Thus the living cost in the island may be reckoned at, say, from 12s. to 15s. a day for a person of moderate expenditure. The English sovereign is accepted everywhere at the full value of twelve guilders, the currency, with the English equivalent, being:—

	s.	d.
One guilder ...	1	8
One kwartje (quarter guilder) ...	5	
One dubbeltje ...	2	

PP

Motor-cars may be hired at some of the principal hotels or carriage repositories at moderate rates; and the charge for private carriages, known as "My Lords," in Batavia and other towns, is from a guilder and a quarter (2s. 1d.) to a guilder and a half (2s. 6d.) per hour. Four-wheeled hackney coaches are obtainable at one guilder per hour; and two-wheelers—"Sado's"—for 60 cents (1s.) per hour.

On arrival at Batavia, visitors should obtain a "Toelating-kaart," or passport, which permits him to visit any part of Java. This may be obtained at the Official Tourist Office, Weltevreden, Batavia, or at any of the principal hotels, on payment of one guilder. The granting of this permit is nowadays little more than a mere formality, and during the whole tour the passport may not have to be shown. The Official Tourist Office has been established by the principal hotel keepers, with the countenance of the Government, for the purpose of affording all possible information to visitors to the island, who may here obtain gratis guide-books enabling them to arrange the various itineraries according to the time at their disposal, and stating the places to be visited, with railway time-tables and fares, hotel tariffs, and charges for conveyances and wayside refreshments. A small outline map of the country is also supplied, which will be found useful in planning the tour. Information is obtainable at the Tourist Office with regard to letters of credit, also circular railway tickets for the tour of the island. The latter allow of break of journey at any station.

The trips through Java, which is some 670 miles long, with excursions to the various interesting spots lying off the trunk railway running through the island east and west, can be most enjoyably and comfortably made in from three weeks to a month. Hustling globe-trotters may "do" the country in a week or so. But, although the railway system is convenient and the trains fairly speedy, to hurry through this land of sunny leisure is to miss much of its main charm. Two or three months, or even longer, may be occupied delightfully in seeing and knowing Java, even superficially.

Assuming that the visitor has at least three weeks at disposal, two days should be spent in viewing the sights of Batavia. Then the train should be taken from the Koningsplein Station to Buitenzorg, the pleasure resort of the west end of the island and place of residence of the Governor-General of the Netherlands East Indies. Here the world-renowned botanical gardens—a paradise of surpassing beauty, created out of what was once impenetrable jungle—form the main attraction. There are two good hotels at this place—the Bellevue and the Chemin de Fer. From the verandah of the former a fine view of the beautiful Tjidani Valley and river is obtainable. The run to Buitenzorg by the morning fast train from Batavia occupies 70 minutes.

From Buitenzorg, the tourist proceeds by train to Soekaboemi, a run of not quite two-and-a-half hours, the railway curving in a southern direction between the Salak and Gedéh mountains, and passing through tea and coffee plantations, which agreeably diversify the landscape. Soekaboemi is a health resort, 2,000 feet above sea-level, surrounded by beautiful mountain scenery. Two hotels here, one a sanatorium, offer good accommodation, which, however, should be secured beforehand by telegraph from Batavia. The same advice may be given in relation to all the places in Java at which it is proposed to stop. Well constructed and

shady roads give opportunities for delightful drives in several directions in the neighbourhood of Soekaboemi, the charges for carriages varying from three to six guilders each trip.

Not much can be said in favour of the vehicular conveyances obtainable in the up-country parts of Java. They are mostly of the ramshackle order, drawn by little, scraggy ponies. On the other hand, the railway service throughout the island is excellent. The carriages are comfortable, and provided with superior lavatory accommodation; and restaurant cars, wherein meals are served at a moderate tariff, are attached to the long-distance trains. A fair speed is maintained; and the officials are invariably courteous and attentive. As in the Federated Malay States, the trains do not run at night-time. But this is no drawback to the traveller who desires to view the country through which he is travelling, especially in the case of a country a principal attraction of which is its magnificent scenery. As most of the railway journeys to be undertaken to the various wonder-spots of the island are short, the traveller will experience no sense of tedium in the course of these excursions. Following are the first-class railway fares for specimen tours in Java:—(1) From Batavia to Buitenzorg, Bandoeng, Garoet, Djocjakarta, Moentilan (for the celebrated Bôro-Budur ruins), Prambanan, Soerakarta and Sourabaya, including detour to Pasoeroean (for Tosari and the Zandzee) £4 12s. 3d.; (2) Batavia, Buitenzorg, Padalarang, Bandoeng, Garoet, Padalarang, Tjikampek, Batavia, £2 7s.; (3) Same as No. 2, but including extension to Djocjakarta, with detours to Moentilan and Prambanan, £5 1s. 7d.

From Soekaboemi the trip may be made to the yet active volcano of Gedéh, whose summit is 3,300 feet above sea-level. On the same majestic chain of mountains is the twin crater of Pangerango. Gedéh broke out with terrible eruptions in 1886 and 1899. At an altitude of 3,000 feet above sea-level on the Gedéh range is the sanatorium of Sindanglaya, a health-resort for all Malaysia and Cochin-China also. The same spot may be reached by taking train from Soekaboemi to Tjiandoer, a short distance further along the main line, and continuing the journey from the latter station by carriage, which should be ordered in advance from the hotel (charge G. 2½). Yet another route to the mountain, and the most interesting from the scenic point of view, is direct from Buitenzorg by the mountain path over the Poentjak Pass. The track is very rough and steep, and some of the journey will have to be accomplished on foot. But the fresh, pure, mountain air and the views of wild and cultivated country, and including picturesque native villages, will make full amends for the jolting of the native car (kreta), and the pedestrian exercise on this route. From the summit of the Pass a short deviation on foot brings one to the Telega Warna (colour-changing lake), a pool in what was once probably the crater of a volcano. The water, surrounded by sheer wooded steeps covered with luxurious and brilliant tropical vegetation. By leaving Buitenzorg early in the morning, Sindanglaya may be reached by the Pass route about noon. The charge for the vehicle and ponies is G. 12.

Pleasant walks may be enjoyed around Sindanglaya, also short excursions on horseback or by sedan chair to several interesting spots detailed in the guide-books of the Official Tourist Office, wherein also the cost of these trips is given. Within a ten-minutes' walk from the hotel is the prettily situated bungalow residence of the Governor-General at Tjipanas. The name, meaning "hot water," is derived from the natural warm springs which bubble

up here. A bath in them may be taken free of charge.

Having exhausted the attractions of Sindanglaya and its environment, the tourist will rejoin the railway at Tjiandoer station, and proceed to Bandoeng, a short stage further eastward. At this place, which has a cool, humid climate, a great horse-race meeting is held during the dry season (July), which extends over several days and is attended by sportsmen from all parts of Java. The attractions to be seen in this vicinity are the water-falls of Penganten, 4½ miles distant from the town; also the Patolha crater, the gaping furnace of the Tangkoeban-Prahoe, and the boiling sulphur lakes. Bandoeng, as the capital of the Preanger Regencies and the home of the native regents, and seat of the Dutch Resident, the real local authority, is a place of considerable importance, and gives opportunities for a study of the manner in which the natives are governed by their Dutch masters. There is a choice of four hotels in the town, at any one of which the traveller will find comfortable quarters—if he shall have had the foresight to announce his coming beforehand.

From Bandoeng the railway journey is resumed for a run of 2½ hours to Garoet, changing at Tjibatoe from the main line to a short branch running south. Between Bandoeng and Tjibatoe the train climbs the Kalaidon Pass, at the top of which there bursts upon the view the plain of Zeles, which has been termed the fairest of all tropical landscapes. The clean and pretty little town of Garoet, where there are two good hotels, lies in the midst of mountains, at an altitude of 2,200 feet above sea-level. Its greatest attractions are the excursions to be made in the surrounding lovely country, and the extremely healthy and cool mountain climate. The environs offer good opportunity for hunting tigers, panthers, rhinoceroses, wild buffaloes, boars, deer, and other large game. From this centre trips may be made to the picturesque lake, Siteo Bagendit (in 40 minutes), the Goenoeng Goenter volcano, and the Papandajan crater (11 miles from Garoet), where one may look right to the seething bottom of the crater. Conducted by a guide, a walk may be taken between the mud springs, sulphur pillars, and solfataras, amid the deafening noise of the self-building sulphur columns, the hot vapours, and the volcanoes spouting water and mud. An excursion may also be undertaken to the White Lake (Telaga Bodas), which is bordered by high crater walls, and measures 700 yards in diameter. One can walk round the lake in half an hour, passing by cascades, fumaroles, and solfatara, and then descend through the Valley of Death (Pedjagalan) on the north-west side of the mountain.

From Garoet the tourist returns on the branch railway to Tjibatoe junction, and thence resumes his eastward journey on the main line. His next chief objective will be Djocjakarta. But should he wish to visit the old-fashioned town and port of Tjilatjap on the south coast, and make the acquaintance of the island of Noesa Kembangan with its beautiful scenery, floral splendour, and curious caves, which lies off that place, he will once more leave the main line, at Maos, and travel south to the coast by a short branch. At Maos, which is the halfway point on the railway between Batavia and Sourabaya, instead of a hotel there is a commodious, well-built government rest-house (passagrahan) where good meals can be obtained and a comfortable bed. Similar establishments are provided throughout the island at places where there are no hotels.

At Djocjakarta the traveller enters the true native Java—the land of the kris and the sarong—the former national weapon will be seen in the girdle of every male adult—and will find much interest in the people to be seen at the wayside stations. At these stopping places also the most delicious fruits, including mangosteens, nanas, and pineapples, may be purchased from itinerant vendors on the platforms.

Everywhere on the main routes of travel the English-speaking traveller will find that his tongue is understood; and most of the educated Dutch converse in it fluently. If there is any difficulty in making oneself understood with one person, there is sure to be another within hail, qualified and ready to act as interpreter. If the tourist is travelling first-class, he will often find himself alone in the compartment; and both solitude and space are at times welcome in tropical travel. But as a rule only the more extravagant and exclusive tourists, the wealthier planters, the native princes and officials with passes use the first-class carriages. More enjoyable company will generally be found in the second-class cars, which are well-fitted and generally patronised by Europeans, from whom useful and interesting information about the country may be readily obtained. Now that this fair land has been opened up to tourists by the enterprise of the Government and the principal hotel-keepers, the visitor need never find himself at a loss for information and direction, readily and even eagerly given. The natives, too, are beginning to acquire a knowledge of the common English terms. Messrs. T. Cook & Son, the universal tourist agents, are agents for the State Railways of Java. From their head office in Ludgate Circus, London, or their branches in any part of the world, full information concerning travel on these lines may be obtained.

Arrived at Djocjakarta, on his journey eastward, the tourist will find that he has spent from twelve to fourteen days in the island, the period varying according to the time he has tarried at the various places of interest *en route*. If he have ample leisure he may make this centre of historic and sacred soil, his headquarters for two or three days, and will find good accommodation (if secured by previous order) at either the Mataram or the Toegoe Hotels. Djocjakarta is the capital of the Sultan (Soosobhoonan) of the province. Though there is a Dutch Resident exercising the real power, this native prince maintains considerable state in his large palace (Kraton) here, which, with its extensive grounds, elephant stables, and zoo, is well worth seeing. Foreigners who wish to visit his Highness and his palace must first apply to the Dutch Resident, who will arrange for an interview. The grand old ruin of the Water Castle Palace, the royal abode of former days, with a tower 400 feet high still erect, should also be visited. There are delightful drives to be taken, preferably in the cool of the afternoon, in the town and its environs, and by the winding Oepak river; and interesting scenes of native life abound on every side in this populous centre.

But the surpassing attractions of the locality are the famous Bôro-Budur and the ruins of magnificent Hindu temples on the plains of Prambanan. These matchless architectural remains, which are among the chief glories of Java, are fully described in the Archaeological section of this work. To reach the Bôro-Budur the early morning train is taken at the Toegoe station, on the steam tramway northwards, to Moentilan, and thence the

tourist is conveyed in a carriage-and-four to the sacred spot. Or the journey from Djocjakarta and back may be made by motor car, or by coach, the road being good all the way and the scenery beautiful. The charges for motor cars holding five, six, or seven persons are respectively 75, 85, and 90 guilders. There is a small hotel at the Bôro-Budur where refreshments may be obtained if the tourist should not prefer to carry a picnic basket from the town. By those interested in archaeology days may be spent in exploring the Chandi Mendoet fore-temple and the vast main structure without exhausting the wonders. But the ordinary visitor can satisfy his curiosity in three or four hours. He should then visit the Pawon temple in the immediate neighbourhood. The train leaves Moentilan at 1 p.m. on the return journey to Djocjakarta, reaching its destination in an hour and a quarter.

The trip to the Hindu ruins of Prambanan—remains that bear witness to the devastation and havoc wrought by the Mahomedan conquest of centuries back, but still show in their splendid decay many evidences of their original magnificence when erected eleven centuries ago—is undertaken from Djocjakarta by a short railway journey of about an hour to Prambanan Station, which is reached at

native fashion, and their manners and ways are well worth studying.

From Soerakarta, or from Djocjakarta direct if no stay be made at the former town, the railway journey is continued to Sourabaya, the terminus of the eastward run. Starting from Djocja at 9.30 a.m. and calling at Soerakarta on the way, the through train reaches Sourabaya, Upper Town Station, at 4.30 p.m. There is a choice of two good hotels—the Embong Malang and the Simpang—in the Upper Town, besides the Hotel des Indes in the Lower Town. In Sourabaya, the second largest town of Java and the main commercial sea-port of the island, the European will find himself at home among compatriots who will admit him to their clubs and extend to him the heartiest of welcomes. There also he will find banking facilities and any commercial opportunities he may need. It was at this spot that the Arabs first landed on their conquering invasion of Java, and reduced to submission the Hindu rulers of the eastern empire of the island, the capital of which, Majapahit, occupied a site near the modern town. But no remains or traces of the former city now exist. A steam-tramway with some deviations connects Sourabaya with Rembang and Semarang on the north coast, and extends further westward along



NATIVE MARKET, DJOCJAKARTA.

eight o'clock in the morning. The ruins are within fifteen minutes' walk of the station; or if the traveller prefers to ride the short distance cars are to be obtained at the station. If morning has been chosen for this trip, the sight-seeing may be accomplished in time to return to Djocjakarta by the train leaving Prambanan at a quarter before noon.

On the way further eastward from Djocjakarta to Sourabaya the journey may be temporarily broken at Soerakarta (Solo), where another Sultan (the Prince of Solo) reigns in even greater state than the neighbouring potentate of Djocja, but with the same absence of real power. His palace may be inspected on permission having been obtained from the Dutch Resident. On August 31, the birthday of the present Queen of the Netherlands, the town is loyally *en fête* with court festivities and all manner of gorgeous and quaint ceremonies. Soerakarta is the centre of the ancient Javanese kingdom of Mataram; and the court of the Prince swarms with native dignitaries of various ranks. These people will be found very hospitable in the

that littoral to Cheribon. But this is not a tourist route, there being little to see on the coastal lowlands save rice-fields in continuous succession.

The main excursion from Sourabaya, to which should be devoted the last three or four days of the tour of the island, is to the health resort of Tosari and the Teng'ger mountains with the volcano of Bromo. Tosari, where there is an excellent hotel and sanatorium, is renowned throughout the East Indies for the salubrity and invigorating freshness of its climate. The sanatorium is perched on a sharp spur of the Teng'ger range; and, from this altitude of 6,000 feet above sea-level, a magnificent view of Eastern Java is obtained with, in one direction, the palms below stretching to the sea, and beyond groups of islands off the coast; while, in another, the smoking crater of the Semeroc is conspicuous among the surrounding mountains. As Tosari is a popular resort for invalids and for exhausted residents of the plains and Sourabaya, as well as for tourists, and visitors are consequently numerous.

accommodation at the hotel should be secured beforehand. Having made the necessary arrangements, the tourist proceeds from Sourabaya by early morning train to Pasoeroean, a journey south-eastwards along the coast of about an hour and a half. From Pasoeroean he travels by pony-carriage southwards through Passerpan to Posepo, the road gradually ascending through tropical vegetation and delightful mountain scenery. Posepo, 2,600 feet above sea-level, will be reached about noon, and a halt will be made for tiffin at the little hotel here. The remainder of the journey up to Tosari, which will be reached early in the afternoon, is accomplished on pony-back or in a sedan chair borne by coolies. Ladies unaccustomed to riding, also invalids, will prefer the latter means of conveyance. The fixed charges and tips to be paid for all means of conveyance are given in the guide-books supplied gratis at the Official Tourist Office, Batavia, and at the principal hotels throughout the island. There is a resident doctor at Tosari, skilled in treating tropical ailments, but the exhilarating health-giving atmosphere of this delightful elevated spot is the best recuperative medicine; and the cosmopolitan company gathered here will be found gay and companionable. On the road up to the height, a large colony of monkeys will be seen, chattering and chasing one another about in a grove of gigantic trees. A short trip may be taken from Tosari to Banjoebiroe Lake, where there are bathing establishments, and some Hindu ruins. Enjoyable walks and rides in all directions may be had, every route having its charm.

The expedition from Tosari to the famous Bromo volcano, one of the chief sights of Java, can be accomplished in a morning by making a start before sunrise, taking breakfast in a basket. The trip is made on pony back or in a sedan chair. The ride to the volcano occupies about three hours. The smoking crater, which rises to a height of 720 feet from the wide surrounding sea of sand, may be climbed by a flight of wooden steps; and from the top the tourist can look down into fathomless depths of the burning mountain. The ascent of the crater is unattended with danger except on the rare occasions of violent eruptions. The return direct to the hotel can be accomplished by lunch time. But a *detour* westward through magnificent forest scenery to the railway at Malang is well worth making. The expedition to Bromo can also be planned to include a visit to the more distant Seméroe. The last-named volcano, rising 12,000 feet above sea-level, is the highest crater in Java.

Another excursion to be made from Tosari is to view the sunrise from the Panandjaan Pass, 9,000 feet above sea-level, which again will necessitate rising soon after midnight. But the magnificent spectacle will amply compensate for this drawback and the somewhat rough pony ride to the spot. Ponies or sedan chairs and English-speaking guides for any of these expeditions, also coolies to carry the picnic-basket, are to be obtained at the hotel. Guides for the whole tour of Java can also be engaged at Singapore, Batavia, or Sourabaya. The hotel-keepers will be found ready to give every information and make all arrangements for excursions in the various localities.

At the completion of his tour of Java the tourist will find himself again at Sourabaya; and from this port he can take steamer back along the north coast to Batavia, or voyage direct to Singapore by the Royal Packet line.

FURTHER TOURS IN THE NETHERLANDS EAST INDIES.

If the tour through Java shall have whetted the appetite of the traveller for further exploration of the many other beautiful and variously interesting islands in the Eastern Archipelago, he should apply to the offices of the Royal Packet Company at Batavia or Sourabaya (whichever may be the port of his departure from Java) for information regarding the running of their steamers to Sumatra (north-west), Borneo (north), Macassar and the Celebes (north-east), the Moluccas (further north-east) and east to Lombok, Soembawa, Flores, the Solors, Timor, and other islands. This company, which also maintains lines to New Guinea, holds the monopoly of the passenger traffic, in and out, and round about, between the different parts of the Dutch East Indies, and issues circular tickets for tours embracing the various centres of interest. Their illustrated hand-book, procurable from the headquarters of Messrs. Thos. Cook & Son's Tourist Agency, at Ludgate Circus, London, or at any of the offices of the company in Netherlands India, give full particulars concerning these tours, with descriptions and views of the various places worth visiting; and, at the end, contains a list of their different services, with schedules of fares. Abundant leisure is necessary for anything approaching an exhaustive tour of the beauty spots of the archipelago; but trips of longer or shorter duration, according to time at disposal, may be undertaken to selected centres of special interest. As a rule, the steamers make a stay of from a day and a half to two days at each port of call.

Descriptions of Sumatra and Borneo, the two largest of the islands in the archipelago, are given in another part of this volume (see Index). Sumatra, separated from Java by the Sunda Strait, will be visited from Batavia, whence the steamers of the Royal Packet run up both coasts and round the top of the first-named island. A circular tour may be made from Batavia, through the Sunda Strait and up the south-west coast of Sumatra, calling at Padang and other ports, as well as some of the small islands off the coast, to Sabang, at the northern extremity. At this point the steamer may be taken across the Straits of Malacca eastward to Penang, on the Malay Peninsula, whence the run southwards to Singapore direct is made. Or from Sabang the trip down the north-east coast of Sumatra to Palembang may be made, calling at several ports on the way. Going round the reverse way, the route is from Batavia to Muntok, on the island of Banca, thence across to Palembang (Sumatra), thence up the Straits of Malacca to Sabang, and thence down the south-west coast.

If bound for Borneo, which lies north of Java, across the Java sea, the tourist may take steamer from Batavia for Pontianak, and land at that port or go on northwards to Singkawang, Pemangkat and Sambas, all on the south-west coast of Borneo. On this route the steamers call at Tandjong-Pandang, on the island of Billiton, which is about half way between Batavia and Pontianak. If the start is made from Sourabaya, the tourist will have a much shorter sea passage north to Banjarmasin, at the southern end of Borneo, whence the steamers proceed up the east coast as far as Tarakan, calling on the way at Moera-Djawa, Samarinda, and some minor ports. From Tarakan, or from Moera-Djawa, the

Straits of Macassar can be crossed to Donggala, on the west coast of the Celebes.

Macassar, a short distance up the west coast from the southern extremity of Celebes, is the starting point for tours round this island, and for trips to the Molucca islands eastwards. This port is reached from Sourabaya by direct steamer line passing south of the island of Madura, and proceeding north-east to Celebes; or by steamer, calling first at the islands of Bali, Lombok, and Soembawa, off the east coast of Java, then proceeding from either of the two latter to Macassar. From this centre, various tours may be planned either way round the very irregular contour of Celebes to the Minnahasa, forming the northern peninsula of the island. The many attractions—lakes, mountains, rivers, or coastal and luxurious tropical scenery—of all these various parts are detailed in the illustrated guide-book of the Royal Steam Packet Company.

From Macassar, a four-weekly service is maintained with Amboina on the beautiful Molucca island of that name, and thence with Ceram and the rest of this group. From Macassar to Amboina is a passage of about fifty hours. The northern islands of this cluster may also be reached by steamer from Menado, on the Minnahasa peninsula of Celebes, to Ternate, whence the voyage may be continued to Wahaai in Ceram, and thence to Amboina, or via the island of Boeroe to Amboina. Wahaai is connected by a service with Sekar on the north-west coast of New Guinea. From Amboina it is but a short run south-east to the Banda Islands, famous for nutmeg plantations, and where rises, amid enchanting scenery, the gigantic volcanic peak of the Goenoeng Api; and from Banda the voyage may be continued to the Kei and Aroe islands, further to the south-east. From Aroe, a run south-west may be made to Tenimber, in the Timor sea, and from Tenimber on westwards, through the small, south-western islands, to Timor. The assistance of the map included in the Royal Packet Company's guide-book is necessary in tracing out any of these tours.

Bali, Lombok, Soembawa, Flores, Solor, and other islands lying directly east of Java, as far as Timor may be visited in succession, by services of steamers from Sourabaya, and this route extends ultimately due east to the New Guinea coast.

The following sketches of tours in the archipelago may be found useful:—From Batavia, through the Sunda Strait, then up the south-west coast of Sumatra, calling at Eugano Island, Bencoolen, Padang, Sabang (northern extremity of Sumatra), thence down north-east coast of Sumatra and across the Straits of Malacca to Pinang, thence to Singapore. From Batavia to Borneo, calling at Tandjong Pandan (Billiton Island), Pontianak (Borneo), Singkawang (Borneo), Pemangkat (Borneo), Sambas (Borneo), thence to Singapore. From Sourabaya to Borneo, Bandjermasin, Pasir, Balikpapan, Moera-Djawa, Samarinda, Donggala, Berouw, Boelongan, Tarakan. Return to Bandjermasin, thence either to Singapore or back to Sourabaya. From Sourabaya to Macassar and round Celebes, back to Macassar; or from Menado to the Moluccas. From Macassar to Amboina, thence to Banda Island. From Sourabaya to Timor, Bali Island, Lombok Island, Soembawa Island, Flores, Timor, returning by same route to Sourabaya.

GLOSSARY.

ALUN-ALUN—An open space in front of each royal residence in Java. Usually a spacious square lawn surrounded by waringin trees and with one or two trees of a similar kind in the middle of the lawn.

AMOK—To run amok; to tilt; to run furiously and desperately at anyone; to make a furious onset or charge in combat (Malay Dict.). "When the cry *amok!* *amok!* is raised, people fly to the right and left for shelter, for after the blinded madman's *kris* has once 'drunk blood,' his fury becomes ungovernable; his sole desire is to kill; he strikes here and there; he stabs fugitives in the back; his *kris* drips blood; he rushes on yet more wildly, blood and murder in his course; there are shrieks and groans, his bloodshot eyes start from their sockets, his frenzy gives him unnatural strength; then all of a sudden he drops, shot through the heart, or from sudden exhaustion, clasp his bloody *kris*." Miss Bond, "Golden Chersonese."

ARRACK—A native spirit in Java distilled from sugar products also from rice and from the fruit of the areca and other palms. The very finest arrack produced is believed to come from Java. The genuine Batavia arrack is quite clear and of a straw colour. It has a peculiar bitter-sweet taste which cannot be imitated. It contains from 52 to 54 degrees of alcohol.

BADJU—A loose-fitting jacket reaching to the middle, with a standing collar and large sleeves which come a little below the elbow. It is worn over the entire archipelago by men and women indiscriminately, but in the case of the women the garment is longer and it is fitted with tight-fitting sleeves.

BATTIK—A process of dyeing in different colours.

BENZOIN—Resin, obtained from a large tree, *Stryx Benzoim Dryand*, found on Java, Sumatra, Borneo, Siam, &c. Benzoim has a pleasant odour and when pure is soluble in alcohol. It contains from 12 to 20 per cent. of Benzoic acid and is used in the manufacture of perfumes and also for medicinal purposes.

BABAADS—Legendary Javan records.

BEKEL—Village herdman in Java.

BEWINDHEBBERS—The name given to the Committee of seventeen who managed the affairs of the Dutch East India Company. In the earliest stage the Committee was not a permanent body, but was elected for a special occasion by the Trading Corporations, Amsterdam appointing eight, Zeeland four, Rotterdam, Delft, Hoorn, Enkhuizen each one, while the Seventeenth was elected either by the Zeeland interest or by one of the four smaller trading Corporations. In popular language the Committee was known as "the Seventeen," and the body is frequently referred to in official records by that name.

BUGIS—The name given by the Malays to the dominant race of Celebes originating in the south-west region of the island. The people call themselves *W'ugi*.

BHAR, or **bahar**, from Sanscrit *bhara*, a load. "A weight used in large trading transactions. It varies much in different localities, and though the name is of Indian origin it was naturalised by the Arabs and carried by them to the Far East, being found in use when the Portuguese arrived in those seas, at least as far as the Moluccas. In the Indian islands the *bhar* is generally reckoned as equal to three *peculs* or 400 avoirdupois. But there is a different *bhar* in use for different articles of merchandise, or rather each article has a special surplus allowance in weighing which practically makes a different *bhar*."—Hobson-Jobson.

CARRACK—A kind of vessel of burden from the middle ages down to the end of the 17th century. The character of the earlier carrack cannot be precisely defined. But the larger cargo ships of the Portuguese in the trade of the 16th century were generally so styled, and these were sometimes of enormous tonnage, with three or four decks.

CARRACORE (or **corecore**)—A large boat.

CHINA CAPTAIN—A head man in the Chinese community. In Netherlands India the China Captain is an important member of the Chinese *Kongsi*, the organisation to which all matters relating to the Chinese community are referred by the Government.

DASAR—A plain.

DESAH—A village.

DODOK—The crouching attitude assumed by the Javanese of the lower orders in the presence of superiors.

FLUTE—"A kind of three-masted trading vessel with a narrow stern," "Century Dictionary." The flute ships of the East India Companies were storeships, but they were armed and manned so as to take part in actions if necessary.

HONGI-TOCHTEN—Expeditions conducted annually against the islanders in the Moluccas to enforce the observance of the spice regulations and uphold Dutch prestige.

KLING—The name applied in Malay countries to settlers of Indian origin. The word is a form of Kalinga, a very ancient name for the region in Southern India known as the Northern Circars.

KAMPONG—Compound or enclosure.

KLIPRECHT—Cliff law, a Javanese custom by which all vessels driven ashore by stress of weather or other causes become the property of the ruling prince.

KRATON—Javanese. A Royal Residence: usually a very large collection of buildings in an enclosure in which all members of the Royal Family and connections of the Court are accommodated. It is ordinarily surrounded by a wall with gates at intervals.

KRETA—A carriage.

KRIS—A weapon, in form like a dagger, invariably carried by Javanese and Malays of all classes.

LAXSAMANA—The name given to certain subordinate chiefs of Malay States who are customarily in command of the army or marine forces of those states under the ruling prince.

MURDIKERS (or **Mardykens**)—A Dutch word derived from the Malay word *Mardahaka* or in Javanese *Mardika*, a free man, one who is exempt from compulsory labour. The name is now obsolete, but in the time of the Company it meant non-European freemen who formed a sort of militia.

NAKODA—The captain of a native vessel.

NEGORY—A large hamlet.

PADRIES—A body of Mahomedan fanatics in Sumatra.

PAGGER—An enclosure.

PANGERAN—An honorific title only borne by those of royal rank.

PINK—A vessel, or boat, with a very narrow stern.

PONDOK—A hut, or small house.

PERKEN—Plots of land given by the Dutch East India Company to persons, mainly of Dutch descent, on the condition that they should cultivate them and give the produce to the Company at fixed rates. This class of cultivators went by the name of "perkeniers."

PRAHU, or **PRAO**—A general term for any vessel, but generally used in the case of small craft.

PULO—An island.

RIX—Dollar.

SADO (dos-a-dos)—A form of carriage.

SAMPAN—A native boat.

SARONG—A garment, a sort of petticoat worn round the lower limbs by Malays.

SHABANDER—A high native official, who performed duties analogous to those of a Port Officer, or Master Attendant in the Malayan and Javanese States.

SLANDANG—Shoulder scarf.

SNOW—A vessel equipped with two masts, resembling the mainmast and foremast of a ship, and a third small mast just abaft and close to the mainmast, carrying a trysail. In rig, it resembles a brig, except that the brig bends her fore and aft mainsail to the mainmast, whilst the snow bends it to the trysail mast. Vessels are no longer rigged in this way.—Century Dictionary.

TEMENGGONG (or **TOEMENGGONG**)—An official title conferred upon the Regents in Java. Sometimes it is given to deserving subordinate chiefs.

UFACHARA—Emblems of State.

WEDANA—Head of a district.

ZEERAH—Village headman (Western Java).





BAS-RELIEFS, BORÔ-BUDUR.

CONCLUDING NOTE.

BEFORE writing *finis* upon our labours there remains to be discharged the agreeable duty of thanking all those who have assisted to make this book the success that we believe it to be. First, we have to recognise with gratitude the uniform courtesy and consideration extended to us in official quarters both at The Hague and in Netherlands India. Particularly we would desire to mention as having given valuable assistance in Holland Jhr. Dr. R. de Marees van Swinderen (Foreign Minister), Dr. Th. H. F. van Riemsdyk (Keeper of the State Archives), and Dr. de Hullu (Assistant Keeper of the State Archives). In Netherlands India the compilers were fortunate enough to secure for their work at an early stage the sympathetic attention of the Governor-General. His Excellency J. B. van Heutsz, and this example in high quarters was followed throughout the official hierarchy, as the pages eloquently testify. To Mr. F. A. Liefcrinck, of the Council of Netherlands India, we are highly indebted for placing at our disposal for reproduction his splendid collection of photographs of Lombok and Bali. Captain T. van Erp is also entitled to our thanks not only for the exceedingly interesting monograph on "Hindu Monumental Art in Central Java" which he contributed, but also for placing at our disposal a quite unique series of photographs and drawings of Borô-Budur and the Temples of Prambanan Plain. Mr. C. M. Pleyte, Lecturer on Colonial Ethnology, Geography, and History, at Batavia, must also in this connection be mentioned and thanked for his erudite article

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BAS RELIEFS, BOROBUDUR.

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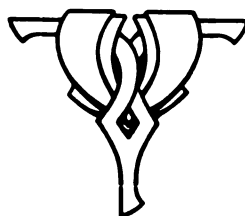
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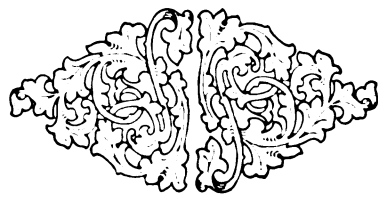
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